

NOVEMBER 1960

Material Handling Engineering

Established in 1945 as FLOW Magazine

THE
OUTPUT

EXPLOSION

in LOUISVILLE

ZI
ANN ARBOR MICH
313 NORTH FIFTH ST
UNIVERSITY MICROFILMS
STEVENS BLDG

A SPECIAL MHE REPORT

... on material handling applications which helped catapult Louisville into the front rank of manufacturing cities in the South.

ALSO IN THIS ISSUE: New Breakthrough In Underground Warehousing

mhe

AN INDUSTRIAL PUBLISHING CORPORATION MAGAZINE

*The original publication of the material handling
industry, preferred by identified buyers of material
handling, packaging and shipping equipment and supplies.*



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With over 10,000 caster types, sizes, and varieties in the Faultless line, *The Casters* you require to move your products efficiently, economically are available from this one source. Faultless makes all caster types, all caster sizes—light, medium, or heavy duty, plus special application casters. Each Faultless caster type or size, before it is marketed, goes through a complete series of tests in the extensive Faultless Testing Laboratory. Thus, you are assured that each caster meets, or exceeds, published specifications. Faultless Caster Corporation is proud of its 70 years of producing *Quality Casters* and standing behind them in every way.

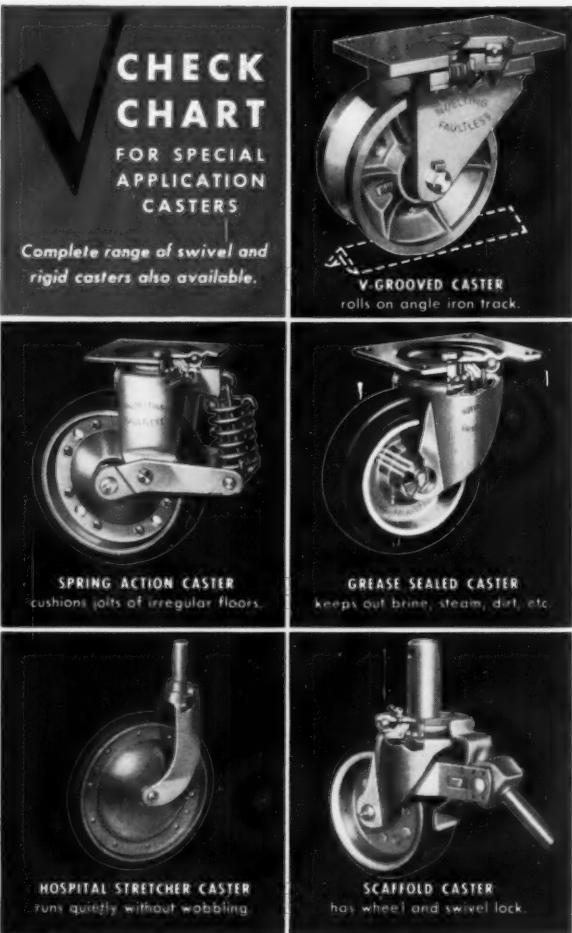
Your Faultless Industrial Distributor, or nearby Faultless Sales Engineer can supply you with detailed information on the complete, quality-tested Faultless Caster line. Also, your Faultless Distributor stocks casters at his warehouse for immediate shipment.



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"They treat you fine
at the
Goodyear Sign!"

See what it means to have

STEEL GUARD Tires

the industrial pneumatics with built-in puncture-barrier

You're looking—up through heavy plate glass—at the kind of shop or yard debris that makes short work of ordinary lift-truck pneumatics. The hazards of the worst brickyard or foundry litter—jagged steel, bricks, nails or what have you—can be reduced to a minimum with STEEL GUARD Tires.



First place, each STEEL GUARD has its own built-in puncture-barrier of heavy, webbed steel cable—right up across the shoulders. And that's embedded solidly in the rubber just above the plies.

Then, there are the thick, rugged lugs of the STEEL GUARD. They make for a tread design that absorbs most

any kind of punishment—and provides extra-traction when the going's slick.

And remember—these STEEL GUARD Tires are industrial *pneumatics* which mean a smooth ride for driver and cargo—plus exceptional stability and flotation. Yet they are practical for use where you would only be inviting trouble with ordinary pneumatic tires.

Wouldn't it pay you, then, to look into this new kind of pneumatic industrial—the great new STEEL GUARD by Goodyear. Check with your Goodyear Dealer—or write:

Goodyear, Industrial Tire Sales, Akron 16, Ohio.



STEEL GUARD TIRES BY

GOODYEAR



Steel Guard—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

MORE TONS ARE HAULED ON GOODYEAR TRUCK TIRES THAN ON ANY OTHER KIND
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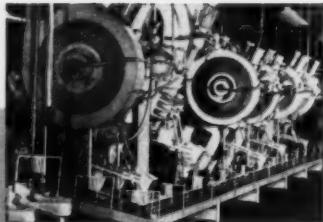
Here's a Savings Program for INDUSTRY

There's no limit to savings when you've got a Wendway

Conveyor system in your plant. For, if you move anything—product, carton, package, part bag or assembly...from machine to machine...one room to another,

Wendway is the one practical, economical method.

Even better...a Wendway system will quickly pay for itself in actual, provable time, labor and equipment savings. So, if you want increased production efficiency and handling savings the easy way...remember Wendway!



Wendway easily adapts and installs with existing equipment to speed processing and continuous flow—eliminates handling, storage and equipment.



"Stub" Wendway, a short single tier unit with regular link-rod belting, conveys packages from bag loaders through a series of stapling and sealing operations. Installations may be permanent or portable to suit the need.



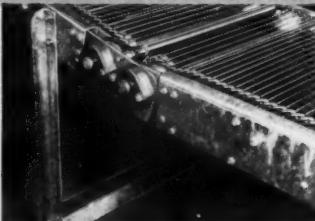
Ceiling-mounted Wendway saves floor space and proves ideal for cooling or drying operations. "Spiral" conveyor shown travels products for predetermined period before returning them to floor level for processing.



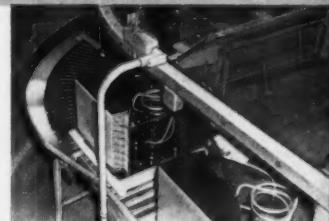
Large glass plant installed this "production line" Wendway system to convey air filters from assembly and stapling machines to elevated shipping and boxing stations.



A typical package conveyor installation, this three-tier Wendway system extends the full length of the loading dock. System is fed by self-powered "roll-away" switch section (center-left).



Powered transfer rollers between regular Wendway sections eliminate "dips" or "hang-ups" to conveyed products, cartons, etc. Regular link-rod Wendway belting is available in regular or stainless steel; also spring steel.



For heavy duty or difficult application, Wendway slat type conveyors are recommended. Conveyor in this installation is carrying room air-conditioners smoothly and safely.



Close-up of the powered slat curve conveyor shows how individual slats smoothly negotiate a curve without variation in open spacing. Heavy duty slat type Wendway is available in powered straight sections, 90° or 180° curves.



Wendway is also available with solid belting such as Canvas, Neoprene or rubber belting to meet every need. Belting widths mix or match with regular or slat type units.

WENDWAY

INDUSTRY'S MOST VERSATILE
POWERED CONVEYING SYSTEMS

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for additional information on
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Yours—without obligation.



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UNION STEEL PRODUCTS CO.

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reader's guide to

NOVEMBER 1960

Material Handling Engineering

volume 15 number 14

Established in 1945 as FLOW Magazine

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Good MH systems in the plant can be ruined by poor dock practices.

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Examples of good handling installations in various fields.

- FLEXIBLE HANDLING FILLS ORDERS 82**
Complete mechanization isn't the answer when stock pickers have to make decisions on every order.



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Ironbound Skids



ROUNDED SAFETY CORNERS

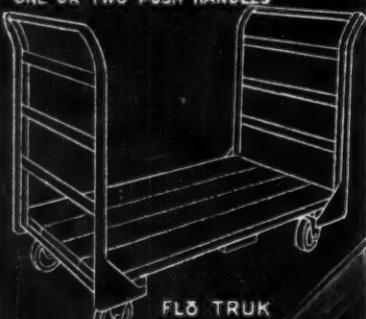
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PUBLISHED monthly and copyrighted 1960 by The Industrial Publishing Corp. Accepted as a controlled circulation publication at St. Joseph, Mich. Printed in U.S.A. Return form 3579 to 812 Huron Road, Cleveland 15, Ohio.

THE INDUSTRIAL PUBLISHING CORP.
812 Huron Road, Cleveland 15, Ohio
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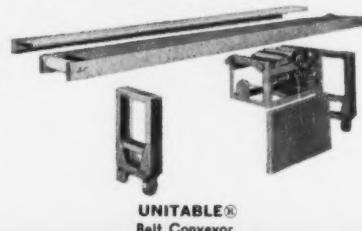
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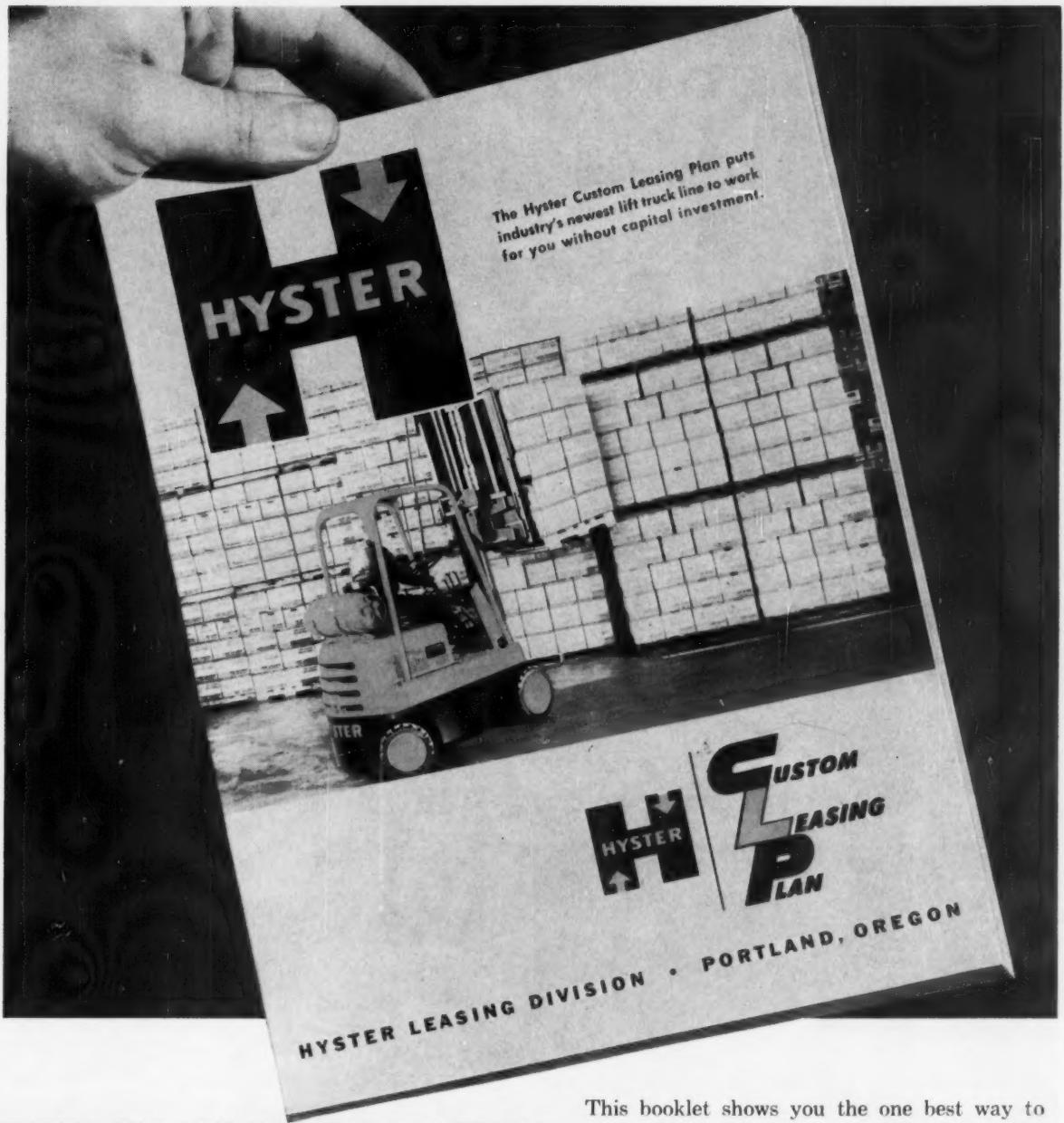
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This booklet shows you the one best way to finance your material handling fleet. One truck or 50 trucks—one day or 5 years—this Custom Leasing Plan fits your exact requirements.

Now you can get industry's newest lift trucks without capital investment—eliminate maintenance problems, and realistically budget your handling costs.

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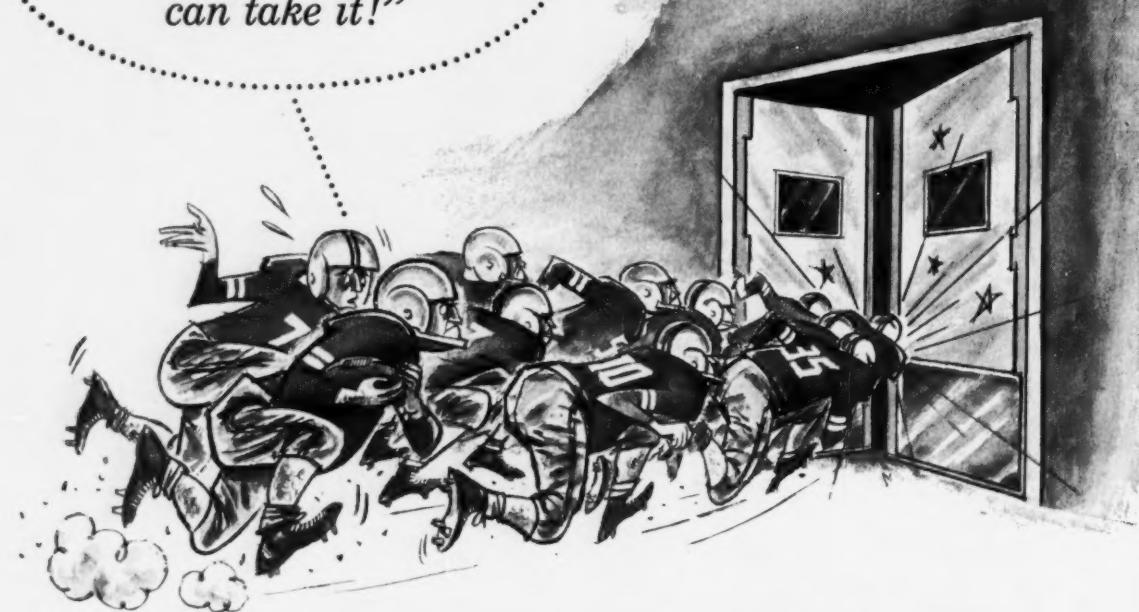
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everyone knows the
CLARK SHOCK ABSORBER DOOR
can take it!"



Won't rip, warp or come off the fastenings



**The Bumper takes the Shock—
Not the Door**

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Not just an improved Impact Door—but a totally different concept! The Shock Absorber Door keeps traffic moving without slow-downs or bottlenecks. No costly "time-outs" for repair.

Flexibly suspended, this lightweight door opens and closes freely, either manually or when pushed by a truck. Exclusive Urethane-filled Bumpers absorb shocks that would wreck ordinary doors. Spring Retriever returns door unfailingly to closed position. Neoprene sealing at all edges assures tight, draft-free closure. Keeps wanted air IN—unwanted air OUT.

Surprisingly low in cost, the Shock Absorber Door comes in one complete, easy-to-install unit. Needs virtually no maintenance. Proven in the plant. Learn why so many Blue Chip companies, after ordering one door, are now reordering several more. See our insert in Sweet's Catalog, or, better still, write us today for full information.

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Reduce pallet costs 90% with Mead Fiberboard Pallets! All pallets do the same job—but Mead Glide-Pak® and Poke-Pak® expendable pallets do the job at only 1/9 the cost! They're made of tough, hardwood fiberboard. Can be used again and again! Easily hold the heaviest loads. And they're truly expendable. Need no deposits from customers. Completely eliminate return headaches, freight credits and charge-backs. They save you costly storage space, too. Stack easily in less space than any other pallet. But get complete facts for yourself. Write today for your free booklet: Mead Board Sales, Inc., 118 West First Street, Dayton 2, Ohio.

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November 1960

MEAD
board



NEWS

ROUNDUP

Connect the 'automation isles,' says GE

STEEL MILLS can now be automated from customer order to delivery of finished product, said Harold A. Strickland, Jr., vice president and general manager of General Electric's Industrial Electronics Division.



OPERATOR of GE's working model of a computer-controlled hot strip mill "rolls his own" steel strip from a console.

Strickland spoke at a press conference prior to the Iron and Steel Exposition in Cleveland.

Strickland also predicted that an equal degree of automation will follow in other industries in the near future.

"GE can now tie together the islands of automation in steel mills," he said. "This includes business and process information handling, process control, and material handling. We can dovetail existing automation lines with new ones or tie together existing islands of automation for a business enterprise."

May expand 1961 PMMI Show

DISPLAY RESERVATIONS for 93 percent of The Packaging Machinery Manufacturers Institute Show of 1961 already have been received. Show committee Chairman W. W. Anthony Jr. said the exhibit area may have to be enlarged. More than 70,000 sq ft has been requested so far by 133 makers of packaging machinery and related packaging materials. The show will be in Detroit's Cobo

Hall Nov. 7-10, 1961. Some 160 manufacturers were to meet this month in New York City to select booth locations.

Allis-Chalmers offers 'Systemation'

INCREASED ABILITY to offer economical systems control for a wide range of processes in many facets of mill operations was offered by Allis-Chalmers at the Iron and Steel Exposition. "Systemation" is the name of this concept.

A-C announced that a recent joint ownership with Bell & Howell of an electronic systems engineering firm, Consolidated Systems Corp., has made the systems integration possible. A-C can now combine the basic equipment of industrial processing with any type of controlling and recording. The result, said A-C spokesmen, is custom engineering of industrial systems control.

Cherkas heads new company



Cherkas

MEASUREMENT CONTROL DEVICES is the fourth of a group of firms that make up Schaevitz Engineering. It will design, produce, and market products and systems made by sister companies. President of the new firm is Paul Cherkas, an engineer formerly with Pratt & Whitney, Tracerlab, GE, and Chance Vought Aircraft.

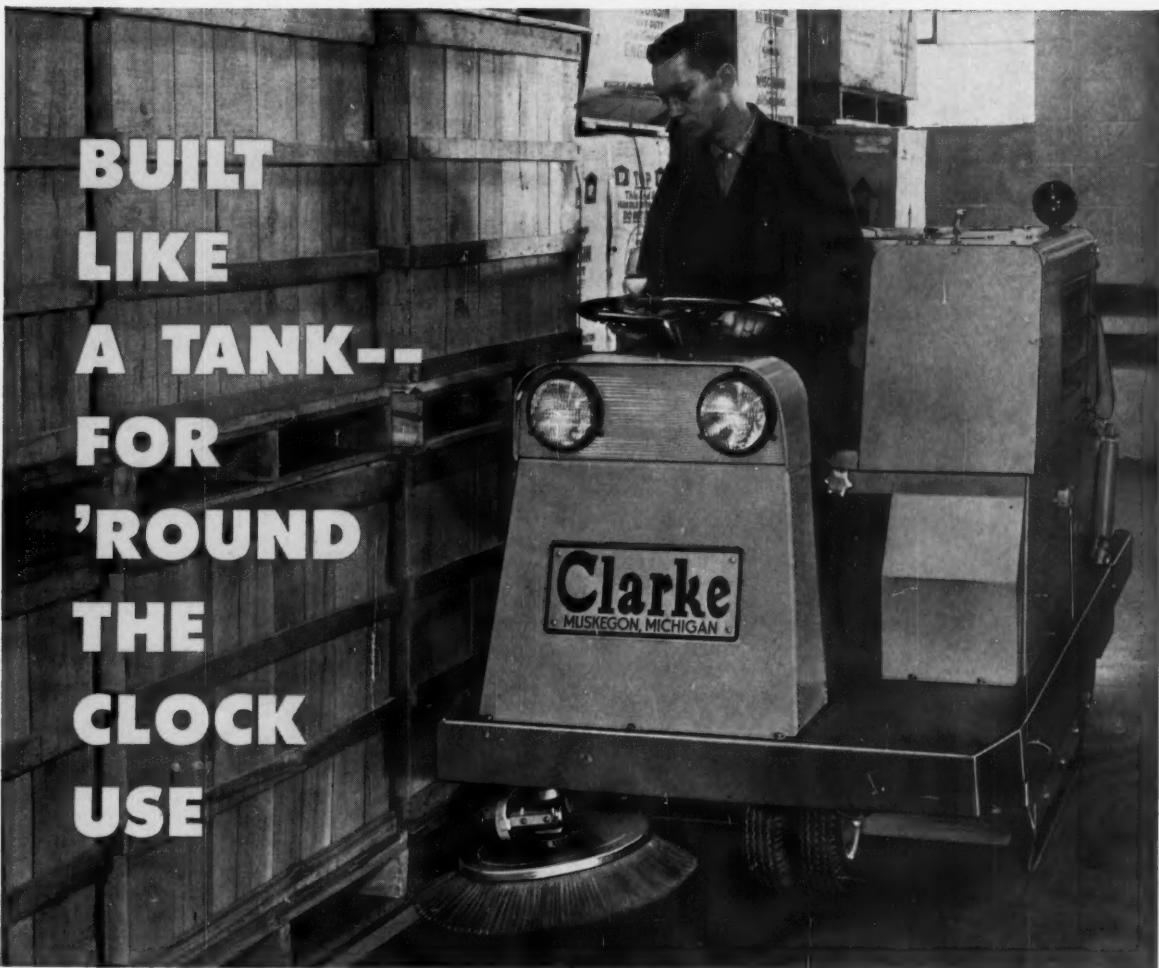
New fuel cell research

SOME 25 AMERICAN and European companies are underwriting fuel cell research by Battelle Memorial Institute, Columbus, Ohio. A five-year program has been drawn up to look into fundamentals and to complement existing studies. The project director is Dr. John McCallum. A fuel cell is an electrochemical

Continued on page 10

New Clarke Heavy Duty Sweeper

**BUILT
LIKE
A TANK-
FOR
'ROUND
THE
CLOCK
USE**



Here's the sweeper you've wanted — the new heavy duty Clarke, the most rugged, work-hungry, punishment-absorbing sweeper on the market.

It sweeps cleaner, faster and more dust-free than any other method. *It slashes your sweeping labor costs as much as 90%.*

The new Clarke works anywhere. Nimble maneuvers in aisles and other congested areas, sweeping right up to walls, posts and fixtures. Charges up and down inclined ramps, over bumps. And, of course, makes quick work of sweeping large, open indoor or outdoor areas.

Works anytime, too. 'Round the clock, if you like. No matter how hard or how long you work it, it stays right on the job to take all the punishment you can give. Its tank-tough body has $\frac{1}{4}$ " steel side plates and a $\frac{3}{16}$ " channel steel

bumper that encircles the entire unit and is an integral part of its all-unitized, welded construction.

Handles like a sports car. One foot pedal controls its hydraulically driven forward and reverse movement with instant response and infinite degrees of acceleration. No shifting of gears. No lack of power from the 15 hp liquid-cooled engine that drives its hydraulic system. Operator's "up-front" position gives him full view of the area ahead. And simple controls that guarantee easy, efficient sweeping are at his fingertips.

Your Clarke Power Sweeper Distributor would like to show these and all the other features of this new heavy-duty sweeper — and spell out how much money it can save you. Send coupon today for new brochure and name of your nearest Clarke Distributor.

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 Please arrange a demonstration.

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Firm _____

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City _____ State _____

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Why

IS THE NEW DILLON MODEL P SCALE SO DIFFERENT?

Because

it's OFFICIALLY SEALED by the Los Angeles County Bureau of Weights and Measures prior to shipment! Absolute assurance that the unit you buy meets the acceptance tolerance of the United States Bureau of Standards for sealable scales as set forth in Section T.2.2 of Handbook 44. These same regulations are followed by all bureaus of weights and measures. Thus, if re-sealing is felt to be necessary in another state, no special problems are involved. Accuracy is within $1/10$ of 1% of full range!

8 different capacities: 0-250, 0-500, 0-750, 0-1000, 0-2500, 0-5000, 0-7500, 0-10,000 lbs. Large, 16" diameter dial. Tare loads instantly canceled out by quick-set knob. Has heavy duty ball bearing swivel hook, sealed mechanism, strong plastic crystal over dial. Shock-proof and fully damped against vibration. Temperature compensated. Exceptionally rugged. Truly America's finest, automatic suspension scale - yet priced LOW to suit the average shop budget!



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10

NEWS

ROUNDUP

cal device that converts chemical energy directly into electrical energy. (See MHE's July report on "Fuel Cells—Almost Here.")

Truck handles grease in bulk

A BULK HANDLING SYSTEM for hauling grease into plants was introduced at the Iron and Steel Exposition. A combination exhibit by Cities Service and American Bridge



BULK GREASE TRUCK pumps its load into container for centralized lubrication system in a plant.

showed a 24,000 lb van for bringing grease into a plant. The grease is then pumped into centralized storage containers. Later it is pumped through enclosed lubrication systems to the bearings on which it is to be used. Cities Service says the system has these advantages:

1. Grease stays free of contamination.
2. No grease is left in the bottom of the container.
3. System eliminates drum handling.

Hewitt-Robins takes over Union Chain

HEWITT-ROBINS INC. of Stamford, Conn., has acquired the Union Chain and Manufacturing Co. of Sandusky, Ohio. This is expected to increase Hewitt-Robins sales by 10 percent. Union Chain will continue as a division, with President E. F. Emmons still in charge. Boards of both companies have approved the acquisition, but stockholders of Union Chain still must approve. Hewitt-Robins gets the assets of Union Chain in exchange for common stock.

Continued on page 12



Now reduce aisles to 6'-capture **36%** "lost" storage space - as Glidden did!

By purchasing the Towmotor "Naro-Aisle-Stack" Series fork lift truck pictured above, The Glidden Company realized an immediate 36.8% gain in storage capacity at their Reading, Pa. warehouse.

Reducing 9' 6" wide aisles to six feet enabled the new lift truck—which stacks heavy loads 90° left or right in the narrow aisles—to bring Glidden many other advantages as well. Now 42% more Glidden products are warehoused. Order filling and shipping are expedited. And the cost of additional warehouse facilities was averted.

Find out how this new "Naro-Aisle-Stack" Series truck can save *your* space, time and dollars as it has for The Glidden Company. Write for new booklet, "Captures Lost Space." TOWMOTOR CORPORATION, CLEVELAND 10, OHIO.

NEW "NARO-AISLE-STACK"
SERIES FORK LIFT TRUCKS
DESIGNED AND BUILT BY...

TOWMOTOR *-GERLINGER*
THE ONE-MAN GANG®

FORK LIFT TRUCKS, CARRIERS AND TRACTORS SINCE 1919
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CUT YOUR COSTS

...let us help you save on every hoisting operation



ELECTRIC HOISTS

Push Button Budgit Electric Hoist. For regular hoisting service. Portable. Hang up, plug in, and use. Two fully enclosed automatic brakes give fast, accurate spotting. $\frac{1}{2}$ -ton model lifts at 34 FPM. Hook suspension. $\frac{1}{2}$ to 2 tons.



Load Lifter Wire Rope Electric Hoists. $\frac{1}{2}$ to 15 tons. Safe 24-volts at the push-button. Single and 2-speed control. Two automatic brakes. Lug or hook suspension; also with push, hand-gear, or motor-driven trolley. Hi-hook model, too.



AIR HOISTS

Budgit Air Hoist. Link and roller chain types. Pendant cord control. Speeds infinitely variable to 75 FPM. Rigid mount push trolley available. Safety hooks standard. $\frac{1}{4}$, $\frac{1}{2}$ and 1 ton. Also Load Lifter Air Hoists with wire rope load line to 15 tons.

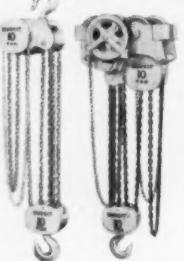


CHAIN BLOCKS

Budgit Chain Blocks. $\frac{1}{4}$ to 10 tons. Light, tough aluminum frame. 25 lb. pull on hand chain lifts 500 lbs. Fast action load brake makes lowering easy. Hook suspension or Army type trolley.



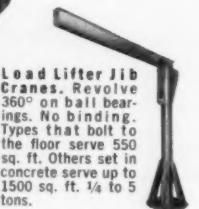
Tugit Lever-Operated Hoist. Light, compact, portable. Easy to operate even in close quarters — lifts or pulls at any angle. A fine maintenance tool. $\frac{3}{4}$ to 3 tons.



BUILD-IT-YOURSELF CRANE ASSEMBLIES



Budgit Crane Assemblies. Low-cost "build it yourself" kits to construct single girder cranes up to 6 tons and 30 ft. span without special tools. You buy I-beam locally to save more. Packaged electric bridge drive adds efficiency. Kits also for 180° swinging bracket jib cranes up to $4\frac{1}{2}$ tons, 10 ft. reach.



Load Lifter Jib Cranes. Revolve 360° on ball bearings. No binding types that bolt to the floor serve 550 sq. ft. Others set in concrete serve up to 1500 sq. ft. $\frac{1}{4}$ to 5 tons.

END YOUR LIFTING PROBLEMS

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60L-10



OVERHEAD HANDLING EQUIPMENT

Products of

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Shaw-Box Crane & Hoist Division • Muskegon, Michigan
In Canada: Manning, Maxwell & Moore of Canada, Ltd., Galt, Ontario

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NEWS ROUNDUP

Australia ups packaging output

A 58-PAGE REPORT on the Australian packaging output shows gains of 90 percent in the last 10 years. The report is divided into six major categories: paper and paperboard, metal, glass, plastics, textiles, and wood. It has charts, statistics, illustrations, and a list of more than 100 packaging makers. You can get a copy from the New South Wales Government Office, Dept. G, Suite 1301, 680 Fifth Ave., New York 19, N.Y.

Moving ramp carries sightseers



YOU MOVE among the birds and get a panoramic view of the San Diego Zoo's gardens from two Speedramp Passengers Conveyors, made by Stephens-Adamson Mfg. Co. They carry you through tropical foliage to the top of a $64\frac{1}{2}$ -ft hill. One conveyor is 182 ft long; the other, 150 ft long. A platform connects them. The conveyors use special grooved belt made by the Goodyear Tire & Rubber Co.

Aim at uniform packaging test results

A GROUP of laboratories in the U.S. and Europe have united under a program designed to raise accuracy of tests on paper and paperboard products and packaging material. Objective is to insure that the same results will come from the same tests in any member laboratory. Participants are known as the Conlab Standards Group. It was started by Container Laboratories Inc. of Chicago. President James A. Sargeant says 40 laboratories are participating, and he hopes to get the total up to 100.

Containerized dinners to Japan

THEY SHIPPED 12,000 frozen dinners from Los Angeles to Overseas National Airways in Japan for in-flight feeding of airplane passengers. The dinners were loaded into a 26-ft container with a refrigeration unit

Continued on page 15



Here's why the NEW No. 944 Traxcavator is bringing NEW standards to wheel loader operation

CHECK THESE FEATURES

- 2 cu. yd. bucket**
- Power shift transmission** and torque converter—provide smooth, instant finger-tip shifting. No clutching necessary.
- Travel-work range power selection**—travel range gives 2-wheel drive for roading. Work range automatically puts power to all 4 wheels.
- Precision, 2-pedal brakes**—left brake neutralizes the transmission as it stops the machine... throwing all power to hydraulic system. This gives superior loading action in tough material. Right brake leaves the transmission engaged for full control of the machine when creeping or working on slopes.
- Safe operation**—bucket lift arms and pivot points are completely in front of operator's area. This allows freedom of movement and wide visibility. Steps offer easy access. No need to climb over tires or bucket mechanism. Fenders protect operator from mud and stones... provide handy platform for checking engine.
- Extra long reach**—50 $\frac{3}{4}$ " at 7' dumping height—for faster, more accurate loading.
- Choice of two new engines**—whatever your job or fuel requirement there's a No. 944 powered to meet the need. Diesel engine is compact. 4-cylinder turbocharged for maximum efficiency. Or there's a 6-cylinder gas engine.
- 105 HP***—delivered from either engine. Plenty of power for machine drive and hydraulic system.
- 4 speeds forward**—0-24 MPH.
- 4 speeds in reverse**—0-30 MPH. Reverse speeds are 25% faster than forward speeds to reduce cycle time.

Circle 27 on Reader Service Card

Automatic kick-out devices on bucket control levers—the lift control releases at dumping height. Tilt control positions the bucket for digging.

Accessible controls—forward-reverse lever is located on steering column. Bucket controls are at the operator's right hand. Speed range selector and work-travel lever are on the operator's left... within easy reach. The No. 944 has push-button starting.

Full line of attachments available—including forks, cab, special buckets, and the exclusive Caterpillar Side Dump Bucket that gives added efficiency... speeds cycle time.

*For comparative purposes, the maximum rating of the diesel engine is 135 horsepower.

Add 'em up. All of these features are designed to give fast, easy, safe operation. Add bold new design, sound engineering, quality construction, responsible parts and service coverage. All of these make the No. 944 Traxcavator pay off big on any wheel loader operation. See your Caterpillar Dealer. Ask for a demonstration. Compare the No. 944 with other loaders you've seen. Then you'll discover why this machine has all the bonus features and performance potential to bring new standards to wheel loader operation *on your job*.

Caterpillar Tractor Co., General Offices, Peoria, Ill., U.S.A.

CATERPILLAR

Caterpillar, Cat and Traxcavator are Registered Trademarks of Caterpillar Tractor Co.

A GREAT
NEW PRODUCT IN THE
CATERPILLAR TRADITION



UNLESS YOU ARE NOW USING GILMAN GUMMED TAPE

CHANCES ARE YOU ARE WASTING UP TO 10% OF YOUR TAPE COSTS *through excessive curling...*

Gilman Gummed Tape, regular or reinforced,
is **COLD-ROLLED** to reduce curling to a minimum!

As a result, you use every foot of tape on the roll,
right down to the core!

*Stop paying for waste... switch to Gilman Tape
and get your full money's worth!*

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If your paper merchant
cannot supply you—call us.

Please send Free copies of "Gummed Tape Tips from Gilman" ...
 Color Swatch Book. Also, Free sample "Cold-Rolled" Gummed
Tape "Cold Rolled" Reinforced Tape Asphaltic Non-asphaltic

COMPANY NAME _____

ADDRESS _____

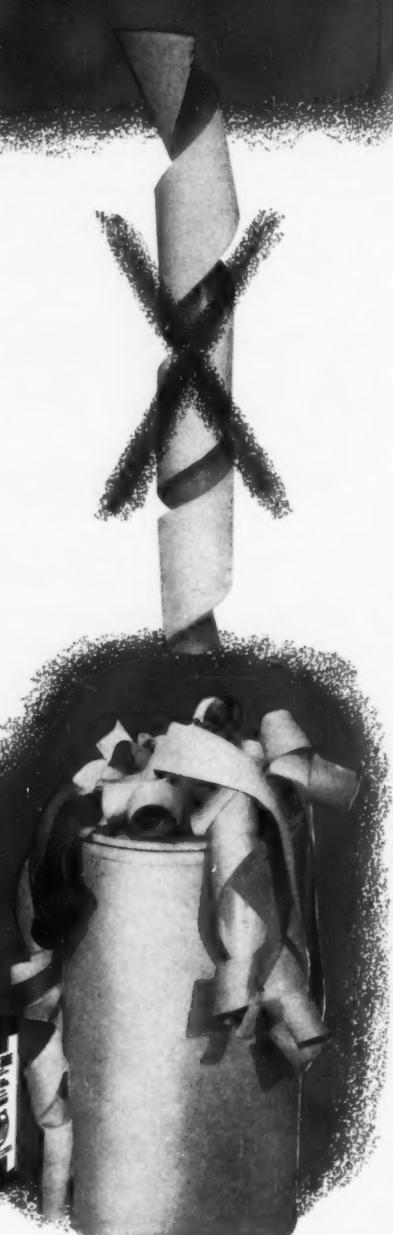
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INDIVIDUAL _____ TITLE _____

OUR PAPER MERCHANT _____ MHE _____



*Trade Mark



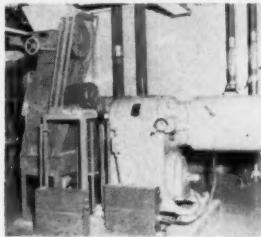
Circle 60 on Reader Service Card

NEWS

ROUNDUP

plugged into the ship's electrical system. Transicold Corp.'s system kept the food at below zero temperatures. Consolidated Freightways handled the shipment from Fradelis Frozen Food Corp.'s plant.

Sprout-Waldron Opens Test Lab



Test lab has 14" CG hammer mill, Varispeed drive.

A MODERN TESTING LABORATORY, available to the processing industry, has been opened by Sprout-Waldron & Co. in Muncy, Pa. In its 25,000 sq ft, the lab contains full size commercial machines to handle sufficient

material for accurate results. Sprout-Waldron makes size reduction and classification, mixing and blending, pelleting and material handling equipment for pure and animal food plants, chemical and processing industries, and pulp and paper mills.

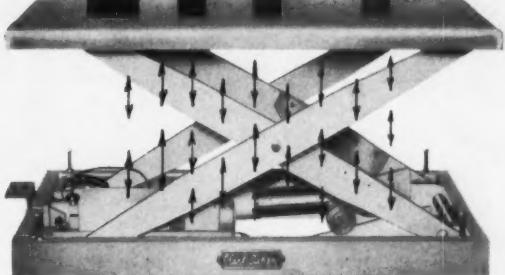
Test Food, Drug Packaging

PACKAGING CONSULTANTS INC. and Hazelton Laboratories are working together to consult on and to test services in food and drug packaging. They will help determine whether packaging contaminates the food and drugs. PCI President Thomas P. Wharton and Hazelton President Lloyd W. Hazelton point out that packaging problems developed from a recent amendment to the Food and Drug Act. They said programs must determine whether packaging has harmful ingredients which food and drugs might pick up.

Cushman Starts Leasing Plan

YOU CAN LEASE Cushman Motors gasoline and electric powered Trucksters and Golfsters under a plan recently developed by this subsidiary of Outboard Marine Corp. At the end of the primary lease term, you may continue to lease the equipment at a yearly cost just slightly more than the previous monthly payments. Advantages: lower plant operating costs, continued availability of working capital, maintenance of an open credit line, payment out of income before taxes, and use of the vehicles at once.

EASY WAY TO GET A LIFT



FOR LOADS UP TO 6000 LBS.—IN MATERIALS HANDLING SYSTEMS OR FOR CONVENIENT PORTABLE USE

Standard sizes afford a wide selection of heights that readily adapt them to changing requirements—from floor level to a height of 48" and will lift up to 6000 lbs. depending on the unit. Control is fast and sure for any height positioning and with electronic accessories automatic positioning is available. Special cradle tops are available for handling paper rolls and other cylindrical materials.

Clark-Aiken

STANDARD LIFT TABLES



FLOOR LEVEL INSTALLATIONS WITH SAFETY TOE GUARD

Tables may be flush floor mounted with disappearing toe guards for safe operation.

EASY TO MOVE FOR PORTABLE USE

Portable unit is wheel mounted; makes easy mobility around the shop for your requirements.

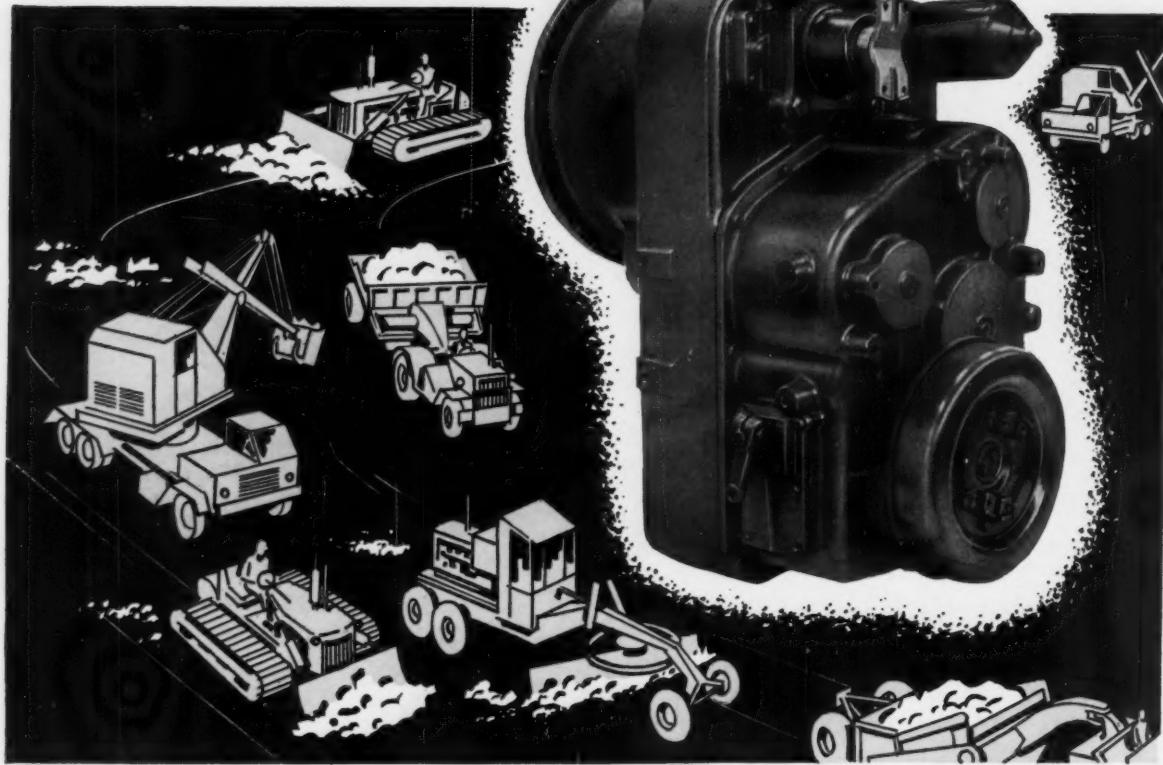


Send today for informative bulletin. Tell us your requirements and we will recommend table size.

THE *Clark-Aiken* COMPANY
105 HART ST. LEE, MASSACHUSETTS

Canadian Representative: Gordon W. Keates
133 Flora Drive, Scarborough, Ontario
Circle 29 on Reader Service Card

More Performance At Less Cost:



HYDRA-DRIVES® CDB POWER SHIFT TRANSMISSION

A torque converter...and 4-speed transmission in one compact package!

Proved in hundreds of vehicles for four years, these units assure top work output of heavy-duty equipment . . . at a lower initial cost than other models of comparable performance. Engine lugging and heavy shock loads are eliminated. A 3 to 1 torque multiplication makes starting fast and effortless—even with heaviest loads.

Just a flip of the operator's lever accomplishes power shifts within each range and without any interruption of the power flow.

With four speeds forward and reverse, the CDB Hydra-Drives Power Shift Transmission is ideally suited for vehicles which must travel in both directions during a normal work cycle. Rated at 550 ft. lbs. input torque, it can be used with a wide range of internal combustion engines up to 250 H.P.

The CDB model illustrated above is used in connection with a size "C" drop box.

A BDB model is also available, for use with a size "B" drop box on equipment up to 175 H.P.

Another Product of...

ROCKWELL-STANDARD
CORPORATION



Transmission and Axle Division, Detroit 32, Michigan

Circle 106 on Reader Service Card



Photo courtesy Butler Mfg. Co., Galesburg, Illinois

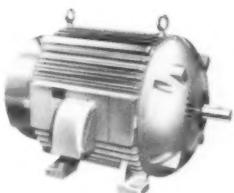
FOR EVERY APPLICATION, THERE'S ONE CRANE OUTSTANDING...

IN METAL FABRICATION . . . One man in the cab of this P&H overhead crane keeps several slitting and roll-forming machines supplied with coils of metal for continuous production. In addition, he spots incoming coils in proper storage areas as they arrive from the mills.

This manufacturer of standardized commercial buildings gets full use of plant floor area by moving materials through the air. The P&H crane and special coil-handling hook eliminates the "dead" aisle space needed with floor-operated equipment. It also saves manpower, and the safe, precision handling reduces damage to finished stock.

As with every Harnischfeger installation, this long-span (87') crane is specially engineered to consider all factors that may affect operation on this particular job. Special problems are taken in stride, integrated into the overall design. Only this kind of integrated engineering can give you performance that's never in doubt, performance P&H crane users have relied on for over 76 years! Why not find out more about P&H "job-engineered" cranes? Write for bulletin C-42, Department 124, Harnischfeger Corporation, Milwaukee 46, Wisconsin.

All P&H motors are built specifically for crane service—not adapted to it! P&H engineers have designed extra ruggedness into every part for maximum efficiency under the most severe conditions of fast acceleration, frequent reversals, and repeated shock loads. Thousands of P&H crane motors in every-day use prove that they give years of trouble-free service with minimum maintenance.



HARNISCHFEGER
Milwaukee 46, Wisconsin

SPACE AGE MARGIN FOR ERROR - ZERO!

This P&H Zip-Lift® hoist carefully lowers a computer unit for a missile inertial guidance system into its special shipping container. Fast, safe, handling is vital with intricate assemblies like this. That's why so many component manufacturers depend on P&H Zip-Lift wire rope hoists. There is never any doubt about safety, reliability, or positive control.

You may not handle missile components, but isn't fast, safe, dependable, precision lifting and spotting just as important to uninterrupted production in your plant? If so, it will pay you to find out more about the P&H Zip-Lift's quality design features — dual brakes, 24-volt controls, shaved gears running in oil, permanently lubricated bearings, just to name a few.

Best of all, the price is down low enough to make a purchasing agent smile! Write for bulletin H-20, Department 226, Harnischfeger Corporation, Milwaukee 46, Wisconsin.



HARNISCHFEGER
Milwaukee 46, Wisconsin





BIG NEWS

for PEOPLE WITH SPACE SAVING
AND STORAGE PROBLEMS

THE *Palmer Shile Co.*
Announces THE NEW

SERIES **75" STORAGE RACK**

A complete storage rack "system" providing

- **ADJUSTABILITY**
 - **FLEXIBILITY** and
 - **ADAPTABILITY**
- at a practical, economical price.

We invite your request for
additional information and literature

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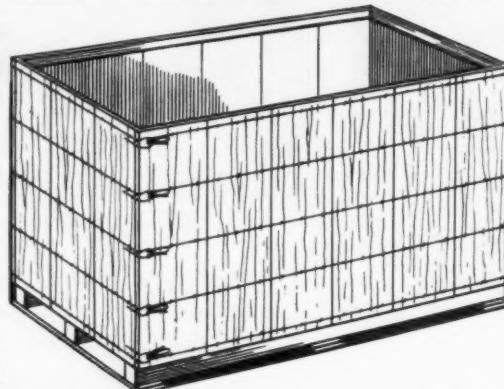
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← Circle 64

beats nature
for
storage
adaptability



Wirebound PALLET BOXES



Their versatility,
light weight, strength
and long-lasting

economy make Superstrong Wirebound Pallet Boxes ideal for all kinds of material handling and storage. Better call in a Superstrong Wirebound engineer for all the details . . . today or real soon.



GET THE FACTS ... call CANal 6-0973 or write Dept. 300

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1440 West 21st Place • Chicago 8, Illinois

REPRESENTATIVES IN ALL PRINCIPAL INDUSTRIAL AREAS
Circle 102 on Reader Service Card

CALENDAR OF EVENTS

November 1-3

Material Handling Institute Central
States Show
Kentucky Fair and Exposition Center
Louisville, Kentucky

November 1-3

9th Annual Canadian National
Packaging Exposition
Automotive Building
Toronto

November 14-15

4th Annual Wooden Pallet Manufacturing & Promotion Clinic
US Forest Products Laboratory
Madison, Wisconsin

November 14-17

42nd Annual Convention
American Bottlers of Carbonated
Beverages
Detroit

January 23-26

Plant Maintenance & Engineering
Show
International Amphitheatre
Chicago

February 13-17

AMA Packaging Management Course
Hotel Astor
New York

February 22-24

MHI Pacific Coast Show
Cow Palace
San Francisco

February 27-March 3

4th Annual Midwest Work Course on
Material Handling Analysis
The Kansas City Center
Kansas City, Kansas

AMERICAN MONORAIL DOES IT!



↑ Lowering a partly assembled trailer top from an upright jig. Five hoists are used because some tops are made in 3 sections. This is a 44-ft. American Monorail crane. A 30-ft. crane and 150 feet of Monorail track also help speed production.

The following are direct statements made by an executive of Richardson Homes Corporation, world's 3rd largest mobile home builder at Elkhart, Indiana.

We chose the American Monorail System because they offered the best product at the least possible cost, plus the finest engineering service available.

"We have been able to realize a 20% cut in labor costs . . . The Monorail system eliminated 16 hard laboring jobs—4 in each of 4 departments.

"Production has increased at least 20% because of our Monorail and we have virtually eliminated backsprains and accidents that used to be prevalent."

AMERICAN MONORAIL



ENGINEERED MATERIALS HANDLING

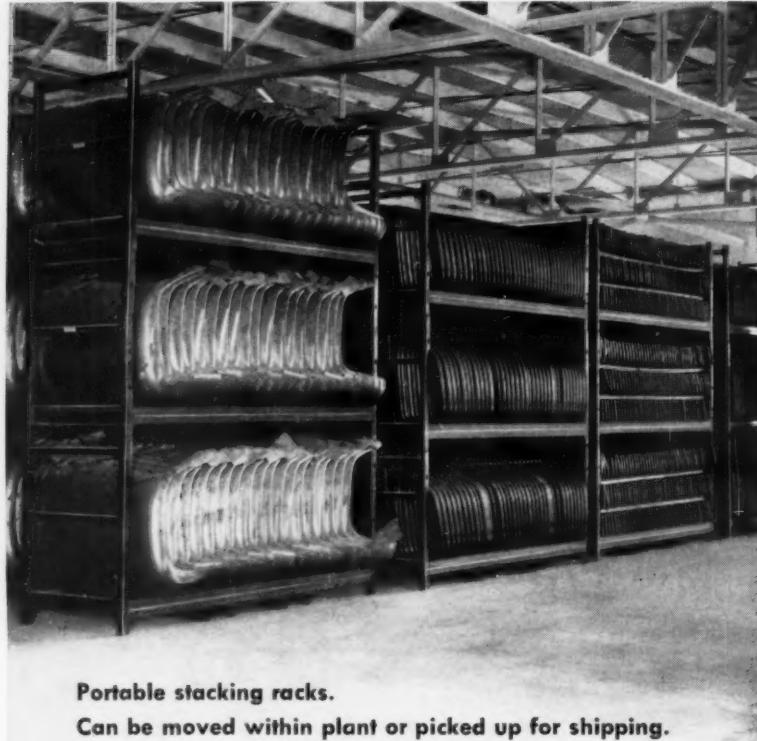


1129 EAST 200th STREET CLEVELAND 17, OHIO

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EMI RACKS FOR ANY STORAGE OR SHIPPING PROBLEM



Portable stacking racks.

Can be moved within plant or picked up for shipping.

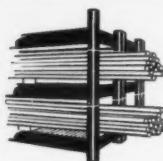
Coil and reel racks



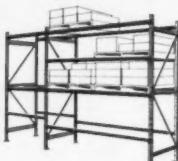
Stock boxes
—solid or KD



Bar, pipe
and
tube racks



Air-Row Head
adjustable
pallet racks



EMI has the most complete range of storage and material handling racks in the industry. Shown here are examples. If you have a special problem, we will design racks to your exact specifications.



METAL WORKING FACILITIES

EMI offers complete metal working facilities including tubular, structural and special shapes.



Round



Square



Rectangular



Step



Zee



Channel

YOU CAN STACK OR SHIP ANYTHING ON EMI RACKS

Write for our
complete catalog!

**EQUIPMENT
MFG. INC.**

21552 HOOVER ROAD

DETROIT 5, MICHIGAN



COST

CUTTING IDEAS

Narrow Aisles Regain 36.8% of Lost Storage



The Glidden Company's Paint Division successfully avoided crowding by redesigning its No. 49 warehouse in Reading, Pa. around the capabilities of a fork lift truck.

By using this new lift truck, Glidden narrowed aisles from 9' 6" to 6' and regained 36.8% of lost space.

The truck is equipped with outriggers. It has a hydraulically operated front-end assembly with 180° pivot section that stacks 90° to right and left. The truck stacks loads up to 2,000 lb in 6-ft aisles.

Two operators keep the trucks going 80 hours a week. They move 8,000 tons of palletized products a month. Glidden increased inventory 42% by stacking 1,650 pallets in tiers up to 14 ft high. The same space used to hold only 1,160 pallets. The greater inventories speed order filling and shipping time. Threat of having to build more warehouse space is over.

W. High Geib, general superintendent says: "There simply is no other gasoline-powered fork lift truck that could do the same narrow-aisle job as this model. We

think it's the best lift truck we could buy for our warehousing."—Towmotor Corp.

Circle 250 on Reader Service Card

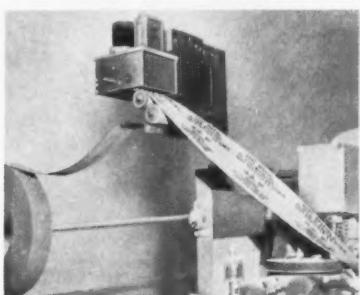
Thrifty Identification

It's easy for International Milling Company of Minneapolis to identify contents of its flour bags for special customers or brands.

Instead of using ordinary printed bag header tape, International prints the identifying copy on plain tape during the sewing of the bags.

A small automatic printer is attached to the sewing machine. Copy is set on sleeves that slip quickly onto the printer.

The header tape feeds through the printer as it proceeds to the wlexer and sewing head. When there's a product change, the operator simply slips off one printing



sleeve, replaces it with another in a jiffy.

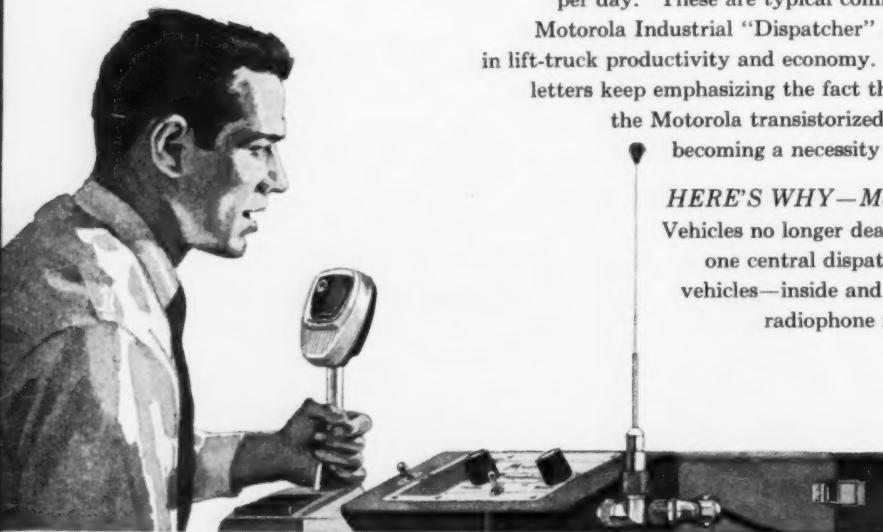
Company says it has no further need to stock a wide variety of printed tapes. This saves inventory cost and record keeping. An additional savings: unprinted tape is cheaper than the printed.—Adolph Gottscho, Inc.

Circle 251 on Reader Service Card

Continued on page 24

SAVE TIME SAVE MONEY

2-way radio...indispensable tool for increasing the efficiency of materials handling operations



COST CUTTING IDEAS

Pneumatic Conveying Doubles Production

A pneumatic conveying system bridges the 800 feet between the production building and the warehouse at Union Starch and Refining Co., Inc., Granite City, Ill.

This not only doubles starch production, but enables the plant to cut handling costs.

Union used to load bags of starch onto railroad cars at the production building for transfer to the warehouse.

In changing, the plant engineers first installed two filtering and starch drying units in the production building. They then built storage facilities alongside the warehouse containing eight 50,000-lb starch bins. Main bagging operation was removed from the production building and placed in a

HERE'S PROOF—"Almost 100% truck efficiency"

... "3 now do the work of 5" ... "2 hours more production per truck, per day." These are typical comments from companies where the new Motorola Industrial "Dispatcher" 2-way radio is turning in new records in lift-truck productivity and economy. Careful surveys as well as unsolicited letters keep emphasizing the fact that, in the field of materials handling, the Motorola transistorized Industrial "Dispatcher" radio is fast becoming a necessity for firms who must stay competitive.

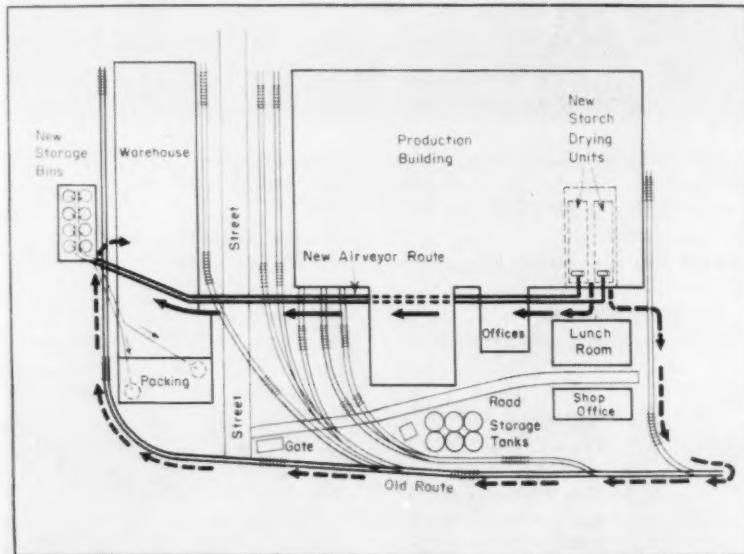
HERE'S WHY—Materials now move according to plan. Vehicles no longer deadhead and backtrack. Motorola links one central dispatcher with all your materials handling vehicles—inside and outside. The Motorola "Dispatcher" radiophone mounts easily on any vehicle; it's the

separate part of the warehouse. Bagging machines were installed.

Finally, all were connected by pneumatic conveying systems. These automatically control the flow of starch in a two-phase operation. In the drier room, control panel signal lights indicate to

an operator when a storage bin is filled. Capacity is 10,000 lb an hour. In the packing room, other controls enable the operator to feed either bagging machine from any of the eight bins at a capacity of 40,000 lb an hour.—Fuller Co.

Circle 252 on Reader Service Card



Circle 90 on Reader Service Card

WITH MOTOROLA 2-WAY RADIO

smallest industrial radio available today. This 2-way radio uses only $\frac{1}{8}$ the current required by other radios, yet delivers 50% more speaker volume.

The Motorola "Dispatcher" radiophone fully lives up to the Motorola name for dependability. Industry uses more Motorola communications systems than all makes combined.

Call your Motorola man. You'll find him listed in the Yellow Pages under "Radio Communications Equipment." Let him tell you about the Motorola "Package" — how your systems engineering, financing, installation and maintenance, can be handled from one source.

Write today for your free Materials Handling 2-Way Radio Fact Kit.

"Dispatcher" is a trademark of Motorola Inc.



Motorola Communications & Electronics, Inc., 4501 Augusta Blvd., Chicago 51, Ill.
A Subsidiary of Motorola Inc., S.Paulding 2-6500



Safe Operation Speeds Cold Room Storage

Two or three gas fork trucks, equipped with exhaust purifiers, shuttle around in the cold room at the same time at Waynesboro Ice & Cold Storage.

They're in the heart of Pennsylvania's apple country. They re-



cently added a single-story structure with a 20-foot ceiling to make use of fork lift truck handling.

The firm needs fast, low-cost

equipment that can work 12 to 16 hours a day. That's what you need when you take in as many as 15,000 bushels of apples a day during the 6-week harvest. These are the benefits of their system:

Doubled capacity. They now stack to 18 feet instead of $8\frac{1}{2}$ to $9\frac{1}{2}$ feet. Doubled speed of storing apples. Cut manpower one-third. Reduced damage to apples. Cut overtime pay in half.

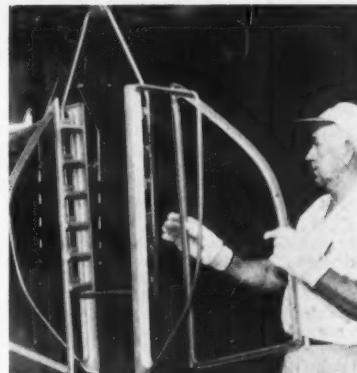
The cold room was built with little ventilation. Frequently the humidity is high. The company decided to try the exhaust purifiers to avoid fumes in the cold storage areas.

Waynesboro reports that even with all three trucks operating at a time, there are no complaints of fumes.—*Oxy-Catalyst, Inc.*

Circle 253 on Reader Service Card

Magnetic Racks Speed Handling

Trim parts hang on magnetic racks at the Chrysler Corp. assembly plants. Magnets have replaced



pins, clamps, and hooks on conveyor lines through the plant.

By using magnets, it's possible to quickly hang parts on the rack rather than to painstakingly place them on a hook, inside a clamp, or thread them onto a hanger.

Parts range from small trim mouldings to 36-lb floor pans. It used to take 77 different styles of hangers to handle the various parts.

The magnets are permanent magnets, welded onto a rectangular frame, 24 magnets to a frame. Each of the assembly plants han-

Continued on page 26

free layout service

...assures better storage facilities for less money

Find out how to store more stock in less space . . . what units to buy . . . how to make maximum use of each unit to reduce equipment investment . . . how to arrange units for fastest stock handling . . . proper width of aisles, location of packing benches, and other valuable data by using Equipto's FREE LAYOUT SERVICE. Profit by the aggregate experience of trained Equipto engineers who have designed thousands of layouts of every description.

For simpler layouts, or for those who wish to design their own facilities, Equipto offers a fact-crammed free booklet entitled, "How to Solve Your Storage Problems".

Remember, Equipto Shelving offers 60% faster assembly, instant shelf adjustment, easy rearrangement of components, removal of units intact. Available in four distinct types to suit every design preference or price requirement. Write today for free booklet.



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Aurora, Illinois

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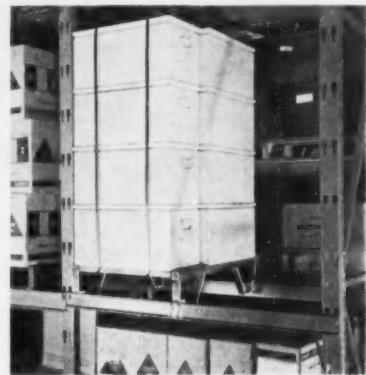
COST CUTTING IDEAS

handles up to 38,000 parts a day. Major advantage of the magnet frame: they support parts on *any* point of contact.—*Chrysler Corp.*

Circle 254 on Reader Service Card

Pallet Design Cuts Placing Time

Automatic Electric, Northlake, Ill. uses skids and pallets in its factory. The company wanted to



make the most use of its space, did it simply by redesigning the skids.

Men used to have to take material off the skids and restack it on pallets to take advantage of high storage in the pallet racks.

Company engineers changed the skids so they fit in ordinary beam-type pallet racks. The job takes only one-third the time it used to take, and it's safer, more flexible. And two skids can be stacked in the opening required for one pallet.—*Automatic Electric Co.*

Circle 255 on Reader Service Card

Handling Cost Cut One-Third

Changing from hand stacking to palletization with fork trucks reduced handling costs one-third for Smart & Final Iris Co., Vernon, Calif.

Before installing a fleet of 28 fork trucks, the company used to manually unload incoming groceries, tobacco, candy, drugs, soft

Continued on page 28



Always before, this material had to be blasted. Then they bought a Michigan Tractor Shovel. It ended the trouble and

SAVED \$34,000 per year

Ability of their Michigan Tractor Shovel to dig a material which always before had to be blasted is saving an estimated \$34,000 per year for Davison Chemical Co., Bartow, Florida.

Together with its digging power, the Michigan also has proved mobile enough to work quickly in the same tight quarters as the smaller loaders it replaced.

The material being handled is triple super-phosphate—manufactured, stored and cured at this plant for at least four weeks. The Michigan is a Model 85A, 9000 lb lift capacity equipped with 1½ yd bucket and replaceable bucket teeth. Its savings have been fourfold . . .

ONE, because the 96 hp Michigan can effectively load the hard-set TSP, Davison has eliminated all blasting.

TWO, the plant has traded in one

of the two 7½ yd tractor shovels previously used to handle the blasted material, moved the second to another job. This transfer has resulted in substantial savings due to the Michigan's lower maintenance cost and greater capacity.

THREE, no less than 12 men (on a 3-shift basis) have been transferred to other jobs . . . 3 tractor shovel operators, 6 drillers, 3 dynamite handlers.

FOUR, with the elimination of blasting has come the elimination also of building repairs. No more are holes blown in the sides and top of the 25,000 ton capacity curing and storage shed.

40 to 45 loads moved hourly

Photo above shows typical operation. Like most loads, this one totals about 1½ cu yds, 1800 to 2000 lbs.

In seconds, the Michigan will turn, drive 25 to 150 ft, and feed the crusher hopper. Output, loaded by hopper conveyor into railcars, averages 40 to 45 Michigan bucket loads, 36 to 45 tons per hour.

Try Michigan on your job

Michiganans, of course, can't always eliminate blasting. But they do have almost unbelievable breakout force (plus maneuverability, plus unexcelled dependability). We'll be glad to give you the proof of a demonstration. Seven 4-wheel-drive, two 2-wheel-drive models to choose from.

Michigan is a registered trademark of
CLARK EQUIPMENT COMPANY
Construction Machinery Division

CLARK
EQUIPMENT

2445 Pipestone Road
Benton Harbor 26, Michigan
In Canada:
Canadian Clark, Ltd.
St. Thomas, Ontario

WHEN THIS UNIT IS
DOWN



YOUR COSTS GO



Beat the Problem by
LEASING your
Materials Handling
Equipment from
RYDER

If you're tired of taking a beating on costly "down-time" take a look at the Ryder lease, a real knockout of a solution.

Your capital is released for other needs. All you do is budget one economical monthly lease rate* . . . let Ryder do all the WORRYING about "down-time," obsolescence, and costly repair bills.

It won't cost you anything and it could save you some big money by writing today for the "Full Story" folder from...

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DIVISION OF RYDER SYSTEM

*This rate can cover a complete Ryder leasing package including truck and car rental, if you wish.

Circle 111 on Reader Service Card

28

**COST
CUTTING
IDEAS**

goods, and hardware. Then men hand stacked them.

Now all incoming goods are palletized, taken into the 375,000



sq ft warehouse by 2,000-lb fork trucks, and stacked in racks. Outbound shipments are all handled by fork truck.—Clark Equipment Co.

Circle 256 on Reader Service Card

**Air-Controlled Hopper
Gate Slashes Downtime**

Handling powdered chemicals under difficult conditions is an everyday job at the Howard Fertilizer Company in Orlando, Fla.



Air control equipment has cut maintenance dramatically, according to foreman C. G. Mills.

One particular trouble spot was the combined weigher-hopper

**FOR MATERIALS
ON THE MOVE**
Universal

BUCKET ELEVATORS
& BELT CONVEYORS

ARE ENGINEERED TO
MEET YOUR NEEDS

Universal Bucket Elevators are designed as compact units, that will elevate your materials smoothly and surely. Standard steel, galvanized or stainless elevators can be supplied in complete "packaged" units . . . ready to install and put to work.

THROUGH RESEARCH AND
MODERN PRODUCTION
METHODS UNIVERSAL
OFFERS YOU . . .

ADVANCED DESIGN.—More compact, cleaner operating, smoother running.

GREATER ECONOMY.—Low initial cost, low operating cost, minimum maintenance and repair.

EASIER INSTALLATION.—Jig assembly at the factory assures precision-fitted components.

QUICK DELIVERY.—Production line methods and rigid quality control assures fast delivery. Parts are kept in stock to avoid costly shutdowns.

Universal Bucket Elevators are available for capacities up to 3750 cubic feet per hour and may be obtained for any exact height.



offer a low cost efficient method of moving all free flowing materials. Low initial cost, less maintenance and trouble-free service are made possible because of the smooth rollerless design. There's a Universal "TROF-BELT" conveyor designed to meet your specific needs in capacities up to 3,750 feet per hour.

GUARANTEE

Universal guarantees complete satisfaction within 60 days or full purchase price will be refunded. Materials and workmanship guaranteed for one year.

Send For Free Literature and Prices



Box 130

Cedar Falls, Iowa

Circle 130 on Reader Service Card
MATERIAL HANDLING ENGINEERING

where dry fertilizer ingredients are weighed before screening, mixing, and bagging. There, an operator selects any one of 12 ingredients from an overhead cluster bin. The operator releases powder until the indicator registers the desired weight.

Then he dumps it onto a belt conveyor by opening a gate built into the bottom of the hopper. A vibrator on the side of the hopper prevents hang-up of material when the gate opens. But lumps of powdered chemicals sometimes clog the gate, interrupt free flow. To stop this, the operator works the air-valve handle back and forth. The air cylinder rapidly opens and shuts the gate, cuts up lumps, and empties the hopper.—A. Schrader's Son Division, Scovill Mfg. Co.

Circle 257 on Reader Service Card

Lubricant Lowers Maintenance Costs



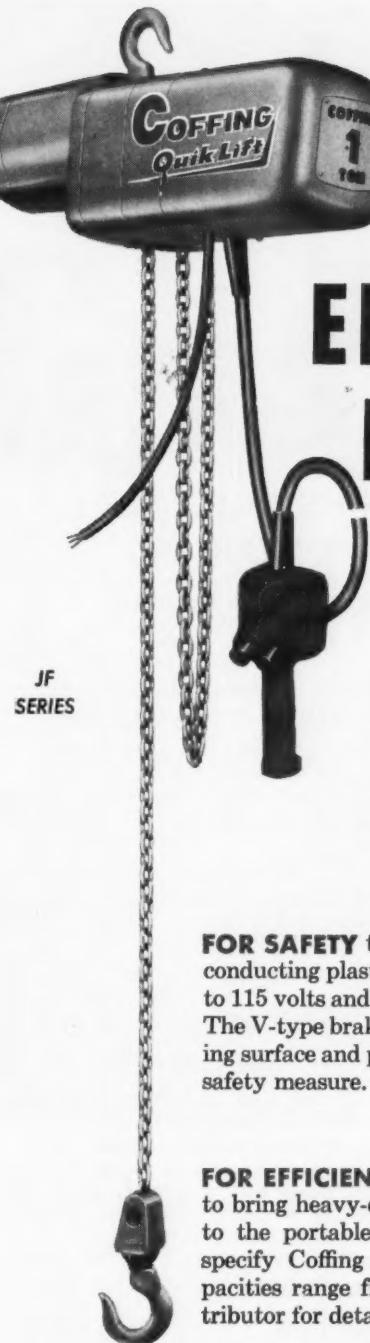
A seed processor ran into serious maintenance trouble because grease separated and solidified in the small tubing. The tubing conveyed the grease to the bearings of many screw conveyors and small bucket elevators.

Deprived of lubricant, the bearings burned out, shutting down the equipment. Maintenance costs went up, and production was lost.

The plant superintendent chose a specialized lubricant, smooth and nonfibrous, with a high oil content. It does not separate.

Since the changeover, the company reports no clogging of lines and no bearing failures due to faulty lubrication. Besides the ad-

Continued on page 30



EASY SAFE EFFICIENT LIFTING!

IT'S EASY to raise or lower loads while pulling a trolley mounted Coffing Quik-Lift Electric Hoist. The pistol-grip control station and the combination strain cable and control cord makes this possible. The light but strong aluminum housing provides ease of portability. Changing voltages, limit switch, type of suspension or chain is quick because the housing is in sections.

FOR SAFETY the control station is made of non-conducting plastic in which the voltage is reduced to 115 volts and the push-buttons are interlocked. The V-type brake which provides maximum braking surface and positive control of loads is another safety measure.

FOR EFFICIENCY this hoist has been designed to bring heavy-duty performance plus durability to the portable hoist field. It will pay you to specify Coffing Quik-Lift. Twenty models—capacities range from $\frac{1}{4}$ to 2 tons. Ask your distributor for details or write for Bulletin ADH-65.

COFFING HOISTS

DUFF-NORTON COMPANY

Four Gateway Center • Pittsburgh 22, Pa.

COFFING HOISTS

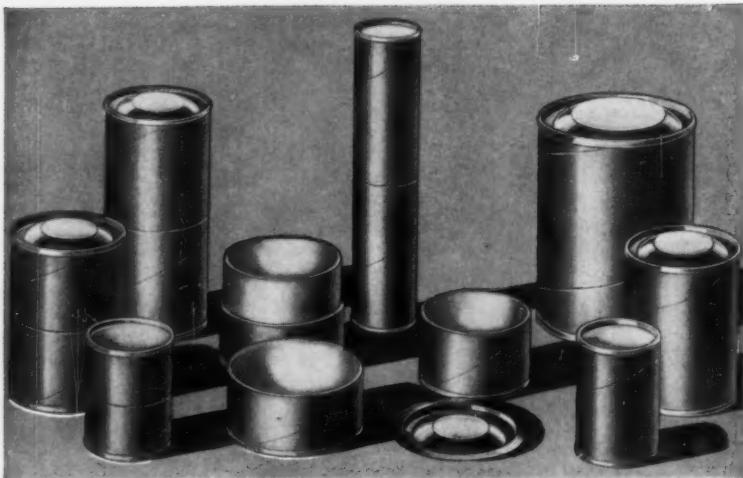
Ratchet Lever • Air
Hand Chain • Electric



DUFF-NORTON JACKS

Ratchet • Screw
Hydraulic • Worm Gear

Circle 34 on Reader Service Card



TELESCOPE AND SINGLE BODY CLEVELAND CONTAINERS for Packaging Spare Parts!

Take advantage of our tooling for more than 100 diameters. CUTS COSTS . . . SAVES TIME . . . GIVES VARIETY of sizes that will package correctly most spare parts items.

Shown are basic fibre containers which fully conform with the latest military and civilian specifications.

This diversified tooling service . . . together with our nationwide network of conveniently located plants . . . assure you of both economy and PROMPT DELIVERY!

SPECIFICATIONS

TELESCOPIC TYPE

Made to conform to both grades of MIL-C-3955, Type II, or MIL-C-2439 and other specifications. Produced in diameters from $\frac{1}{4}$ " and in lengths desired. This container is easily sealed by the use of tape to specification PPP-T-60.

SINGLE BODY TYPE

Made to conform to MIL-C-3955, Type I, and other specifications. Diameters from 1" and in lengths as required. One metal end seamed on, the other end shipped loose. A machine for attaching the loose end is available on a rental basis.

• Write for our illustrated brochure.

Why pay more? For quality products . . . call CLEVELAND!

THE CLEVELAND CONTAINER COMPANY

Plants and
Sales Offices:
Cleveland
Detroit
Chicago
Memphis
Los Angeles
Plymouth, Wis.
Jamesburg, N.J.
Fair Lawn, N.J.

6201 BARBERTON AVE. • CLEVELAND 2, OHIO
ALL-FIBRE CANS • COMBINATION METAL AND PAPER CANS
SPIRALLY WOUND TUBES AND CORES FOR ALL PURPOSES
CLEVELAND CONTAINER CANADA, LIMITED
Plants & Sales Offices: Toronto & Prescott, Ont. • Sales Office: Montreal

Sales Offices:
New York City
Washington, D.C.
Rochester, N.Y.
West Hartford,
Conn.
•
Abrasive
Division
at Cleveland

Circle 33 on Reader Service Card

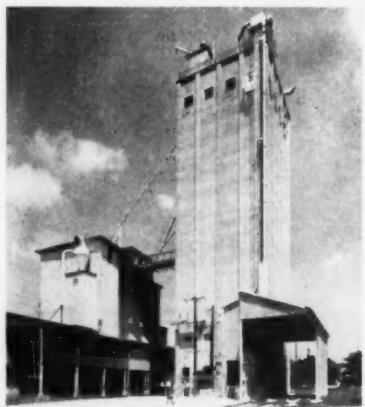
COST CUTTING IDEAS

vantage of the cut in downtime, housekeeping is improved because there is no dripping oil.—Keystone Lubricating Co.

Circle 258 on Reader Service Card

Feed Mill Capacity Doubled

What once took 16 hours, now takes 8. New blending and storage facilities are doubling feed mill



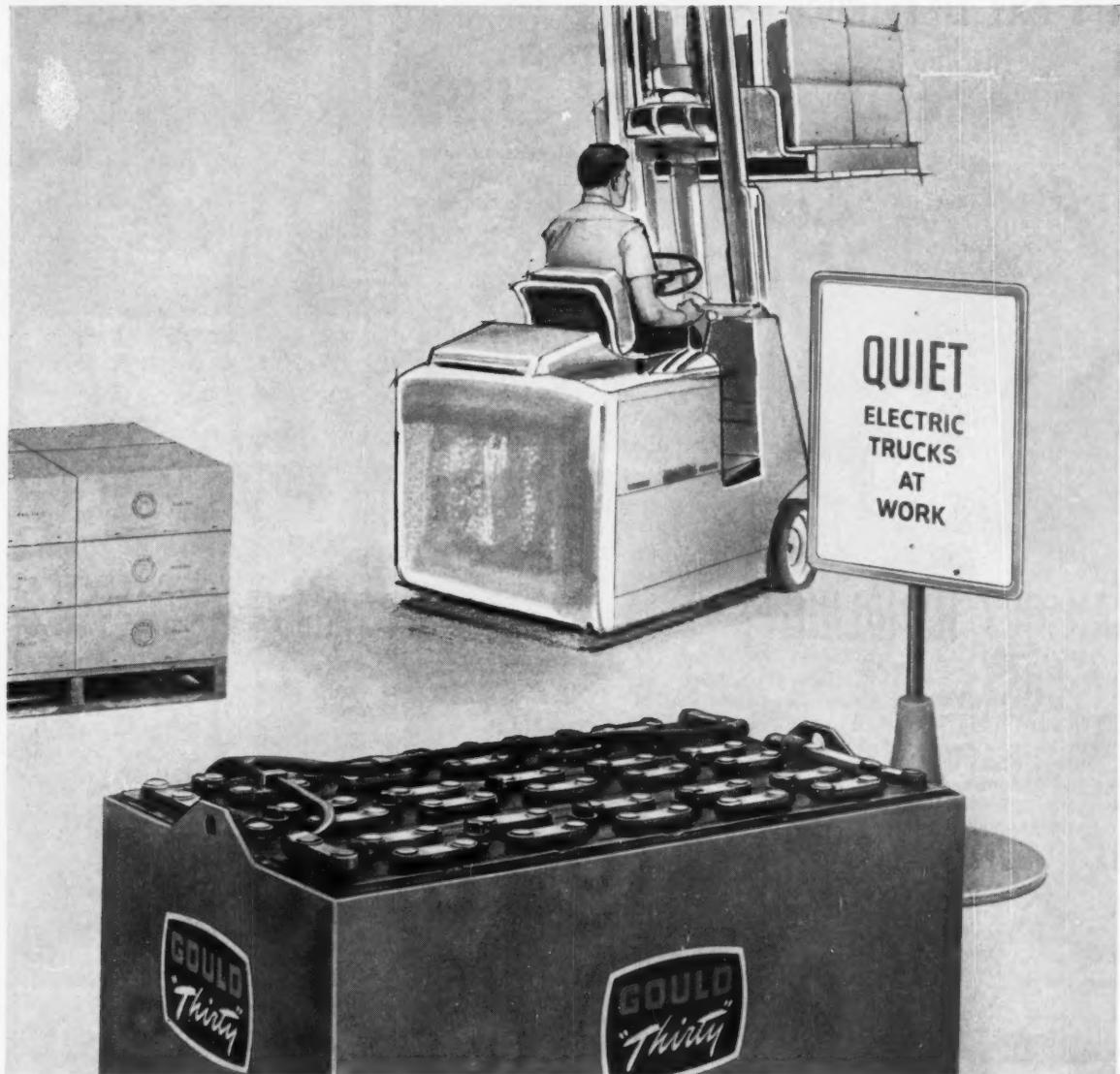
capacity for Faultless Milling, Springfield, Ill.

Bagged materials used to be unloaded manually from freight cars and trailer trucks, moved by hand trucks to the storage area, and then trucked to the mixing site. After mixing, feeds were packaged and transferred to the shipping room. If they needed further processing, they had to be again transferred to the processing machines, back to shipping.

Heart of the new system is two vacuum type pneumatic systems. One unloads box cars and covered hopper cars. The other unloads trucks and also transfers bagged ingredients and premixes from the other mill to the new 150-ft storage and blending tower.

The car unloading system unloads to 24 of 45 ingredient storage bins in the new tower at a capacity of 40 tons an hour. The transfer system delivers material to any

Continued on page 32



Electric Trucks REDUCE NOISE LEVELS

Quiet operation of battery-powered electric trucks eliminates distraction and annoyance to workers performing other production work. Quiet operation is an outstanding advantage when it is necessary to give verbal instructions to truck operators or to signal them by a dispatch system. Finally, quiet battery-powered electric truck operation is a valuable safety factor—the operator can concentrate better on activity around him.

Add quietness to a convincing list of other benefits—lower operating cost, less maintenance, clean and safe operation—and you can see why users prefer electric trucks for modern, efficient materials handling.

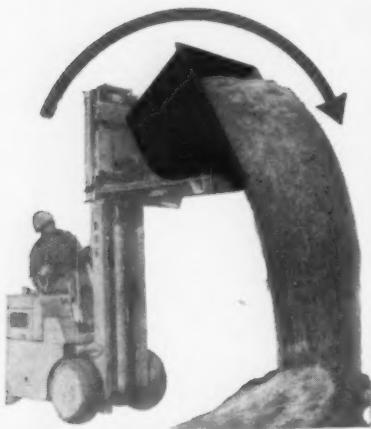
Electric truck users generally agree on one other point, too—Gould Batteries for longer life. With the vital new Silconic Plate, Gould Batteries offer up to 25% longer life through prevention of grid corrosion.

Join the list of satisfied users who prefer this ideal combination of battery-powered electric trucks and Gould Batteries. For more complete information, write or call the local Gould representative nearest you. Ask for booklet "Why We Use Battery-Electric Industrial Trucks." Gould-National Batteries, Inc., Trenton 7, N. J. In Canada, write to Gould-National Batteries of Canada, Ltd., 1819 Yonge Street, Toronto, Ontario.

More Power to you from **GOULD**

Circle 62 on Reader Service Card

FITS ANY LIFT TRUCK DUMPS AUTOMATICALLY



CAN CUT HANDLING COSTS 50%

With this self-dumping hopper on your lift truck, one man can do the work of two—in a fraction of the usual time. It's the modern, low-cost way to handle scrap metal, small castings, cinders, punch press parts, hot forgings, cullet—all kinds of bulk material.



Roura Hoppers are sturdily made of $\frac{3}{16}$ " steel plate with continuous arc-welded seams. Heavier plate if desired, also stainless steel or galvanized. Made in eight sizes, $\frac{1}{2}$ to 4 yard capacities, mounted on live skids or a choice of wheels. Standard models available for immediate shipment.

ROURA Self-Dumping HOPPER

WANT MORE DETAILS? Just clip this coupon to your letterhead and mail to

ROURA IRON WORKS, INC.
1411 Woodland Ave., Detroit 11, Michigan

Circle 109 on Reader Service Card

32

COST CUTTING IDEAS

of the 45 bins at 15 tons an hour.

The receiving unit controls dust with a four-compartment bag filter above a double cone centrifugal separator.—*The Fuller Co.*

Circle 259 on Reader Service Card

Poly Bags Protect Ingots During Storage

One-ton bundles of aluminum ingots are stored in large polyethyl-



ene bags from the time the metal cools until it is shipped. That's the practice at the Alton, Ill. plant of the Federated Metals Division of American Smelting and Refining Company.

The company says it now is shipping brighter, shinier ingots. By controlling condensation on the metal and keeping off dirt and dust, these bags help ensure the delivery of an unblemished product to the customer.

The bags, which are removed from the ingots before shipment, are used 6 to 8 times before they're discarded.—*Union Carbide Plastics Co.*

Circle 260 on Reader Service Card

Salvage System Reduces Costs

An automatic scrap paperboard handling and baling system speeds salvage at the Chicago plant of the Owens-Illinois Paper Products Division.

Pick-up stations remove the waste strips by suction. They're blown through a system of air-conveying ducts to a separator on the roof, directly over the baler.

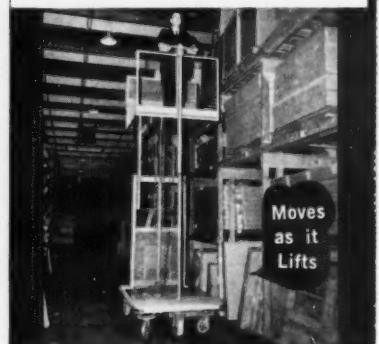
The air used to move the scrap

Continued on page 40



Add new "TRAVEL-N-LIFT" Technique to your Product Handling with

Weld-Bilt "RIDER-BOY" Self-Propelled PLATFORM LIFT TRUCK



for
ORDER PICKING...
PRODUCT MOVEMENT...
OVERHEAD MAINTENANCE...

Push Button controlled from steering Tiller at operator's fingertips, new RIDER-BOY travels through your shop or warehouse, with load and rider, steers easily through aisles, around sharp corners, — lifts and lowers man and load as it moves, for time-saving platform positioning, — lifts to any height up to 10 feet. Saves time and effort on order picking, product moving, overhead maintenance, stacking, storage, and many other tasks.

Electro-Hydraulically operated, powered by heavy duty industrial batteries, with built-in charger, new RIDER-BOY easily handles load capacities up to 1000 lbs. Write for the whole story of new Weld-Bilt "RIDER-BOY" advantages in your product handling needs.



WEST BEND EQUIPMENT CORP.
Materials Handling Engineers

335 Water Street • West Bend, Wisconsin
Circle 135 on Reader Service Card

Circle 20 on Card →

Another first from Standard Conveyor

New continuous vertical conveyor revolutionizes floor-to-floor movement



Escaveyor self-loads, self-unloads, lifts products straight up or down without tipping or jarring. Provides smooth up, down, or reversible service.*

How Escaveyor speeds production. Here is the answer to your big need for a fast, continuous flow of commodities from floor to floor. Escaveyor moves commodities at a steady rate of 8 to 10 loads per minute.

How Escaveyor saves space. Escaveyor lifts packaged or unit commodities rapidly from floor to floor with the continuity of a belt conveyor. Yet your product always rides level. And look at the huge saving in space! It takes even less floor space than a conventional monostrand or straight-lift conveyor! Escaveyor's size is tailored to fit your package.

How Escaveyor costs less. Escaveyor actually costs less to purchase and install than practically any other type of lift. It requires less manpower because no manual loading or unloading is required. You also save many square feet of valuable floor space.

Free brochure. Send for free Escaveyor brochure! It tells how Escaveyor works, and how it can solve vertical material handling problems for you! Get your copy from Standard Conveyor Company, Dept. A-11, North St. Paul 9, Minnesota, or from your nearby Standard Conveyor sales representative.

*patent pending



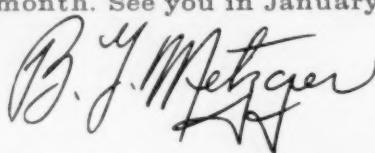
**Standard
Conveyor**

Sales and Service in over 40 Cities
Consult your Yellow Pages



SHADOW of BIG THINGS*

* Sorry... we're so busy with expansion plans we didn't have time to write an ad this month. See you in January.



B.J. Metzger

VICE PRESIDENT

Circle 120 on Reader Service Card

34



MATERIAL HANDLING DIVISION
UNION ASBESTOS & RUBBER COMPANY
332 South Michigan Avenue Chicago 4, Illinois

MATERIAL HANDLING ENGINEERING

Bendix announces

TWO

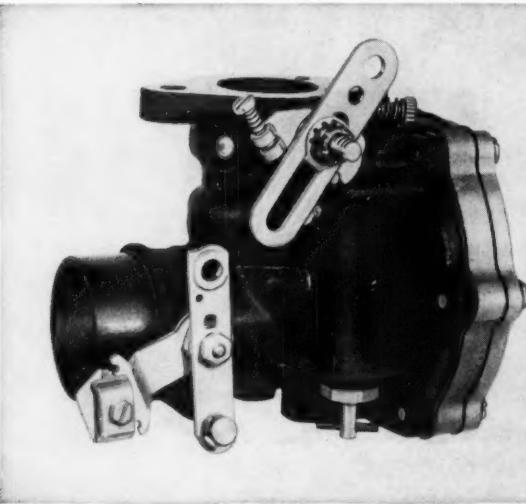
GREAT NEW COMPONENTS FOR ZENITH LP FUEL SYSTEMS

1

**ZENITH
PRESSURE
CARBURETOR**

Greater safety and efficiency in fuel control are built into this new Zenith® LP carburetor. In its development, our engineers drew upon their wide experience in other fields of carburetion—particularly aircraft pressure carburetion, where Bendix patents exist. The new LP models offer many advanced features: Both fuel economizer and final regulator are built in. The carburetors are fully balanced, can have fixed or adjustable fuel metering, and are simple to service. Two sizes available: 1" S.A.E. (Model PC 1-8) and 1½" S.A.E. (Model PC 1-10).

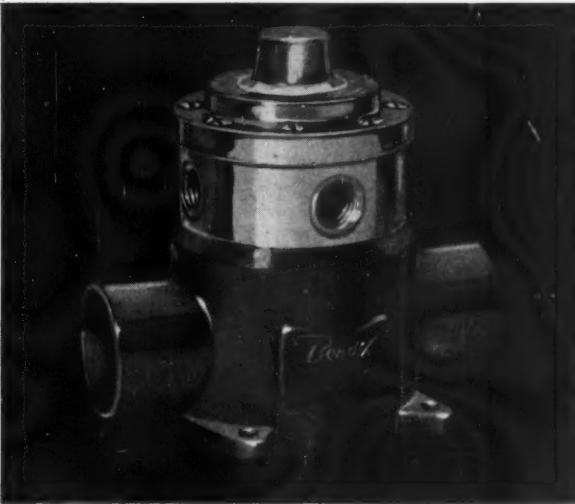
Zenith Supplies more LP Gas Carburetors for Materials Handling Original Equipment than any other Manufacturer.



2

**ZENITH HOSE LINE
UNIVERSAL VAPORIZER**

As the high-performance companion to the new pressure carburetor, we have designed a new hose line vaporizer. It mounts in any position in upper or lower radiator hose. For additional capacity on large engines, vaporizers can be mounted in both hoses. The unit, including the head, is cast from aluminum for light weight. The casting includes a pad for bracket or brace support in mounting.



Write for information on Zenith's LP Gas Carburetor School

Zenith Carburetor Division

696 HART AVENUE, DETROIT 14, MICHIGAN

Circle 15 on Reader Service Card

November 1960



35

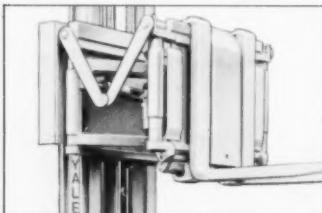
Circle 140 →

save space you can't afford to waste

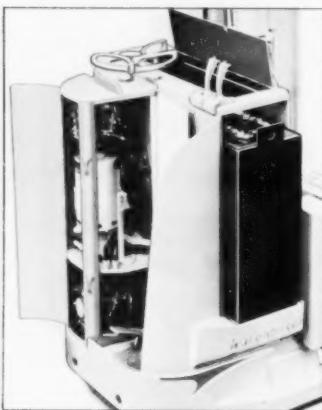
YALE WAREHOUSERS



Control grouping saves time by permitting operator to lift or lower while travelling. Direction indicator in steering wheel hub shows drive wheel direction, saves effort in cramped quarters, prevents stalling. Hour meter checks operating time, ton-hour handling costs, permits maintenance based on running time.



An exclusive separate motor and hydraulic system in the Extend-A-Load for fork extension and tilt increases efficiency . . . saving power. Unitized design gives maximum maintenance accessibility. Exclusive, interlocking I-beam mast gives greater strength and stability. Mast and carriage ride on large ball-bearing rollers.



Operational maintenance is easier. Maximum accessibility to components without sacrifice of chassis strength and rigidity. Immediate access to battery for inspection. Easy battery removal.

- Get more pallet rows in the same space • Can work in a 6 ft. aisle • Stack to 20 feet and more • Save on low maintenance • Reduce power costs • 2000, 3000, 4000 lb. capacity.

You get greater power in less space with the 24-volt Yale Warehouser. More efficient use of power for increased work capacity. Faster lift and sustained high-speed travel.

The Yale Extend-A-Load model handles various widths of loads because different size pallets and skid bins can be handled without nesting between outriggers. Maintenance is easier and power is conserved by Yale's exclusive separate power unit for fork extension. Extend-retract device designed for low overall height to prevent robbing you of valuable space in high stacking. Forks can be tilted back to 6 degrees to protect load and speed operations. They can be extended, retracted or tilted at any height of lift. Twin tilt cylinders eliminate sway of forks—provide load stability.

Start saving now. Yale has a finance plan that will put this truck to work for you immediately. For more information, contact your Yale Representative, or write to: The Yale & Towne Manufacturing Company, Materials Handling Division, Philadelphia 15, Pa. Dept. R-005.

Yale Materials Handling Division, a division of The Yale & Towne Manufacturing Company. Manufacturing Plants: Philadelphia, Pa., Forrest City, Ark. Products: Gasoline, Electric, Diesel, and LP-Gas Industrial Lift Trucks • Worksavers • Warehousers • Hand Trucks • Industrial Tractor Shovels • Hand, Air, and Electric Hoists

YALE
INDUSTRIAL LIFT TRUCKS
TRACTOR SHOVELS • HOISTS
YALE & TOWNE



Save space where space costs most—cold storage operations. How much does your space cost?

IF IT MUST SLIDE

ROLL STRIKE

SEAL ...OR DEFY

HEAVY LOADS AND

ABRASION FROM

-80° F. TO +250° F. ...

MAKE IT WITH

ADIPRENE®

URETHANE RUBBER

PROPERTIES OF CURED ADIPRENE POLYMERS

	75	88	95	97	99+
Hardness, Shore A	75	88	95	97	99+
Hardness, Shore D	—	43	50	60	78
Modulus, 300%, psi	1100	2100	3200	7000	—
* * Tensile Strength at Break, psi	4500	7000	8825	8500	8500
Elongation at Break, %	400	450	480	340	250
Izod Impact Notched ft.-lbs./in.	Flexed	Flexed	Flexed	20	1.2
Split Tear, ASTM-D 470 lbs./linear inch	25	50	155	160	200
* * * Compression/Deflection, psi @ 5% defl.	250	575	750	1800	6000
Rebound Resilience, %	45	45	40	42	45
Oil Resistance	Good	Excellent	Excellent	Excellent	Excellent
Low Temperature Brittle Point, F.	-80	-80	-80	-80	-80

* Softer compounds ranging from 10 Shore A are also available. ** Samples pulled @ 1 in./minute (elastomer stocks normally pulled @ 20 in./min.) *** Shape Factor—1.0
For more information write E. I. du Pont de Nemours & Co. (Inc.), Elastomer Chemicals Dept. MHE-11, Wilmington 98, Delaware.



ADIPRENE®
URETHANE RUBBER

Better Things for Better Living . . . through Chemistry
Circle 46 on Reader Service Card

“A major cost-reduction must come from costs other than direct labor and material costs! Management must pin-point actual materials handling costs”

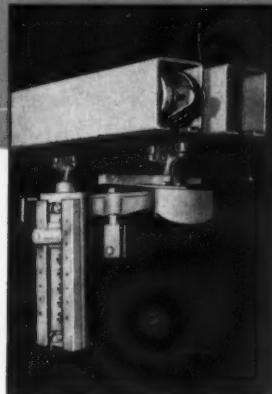
You can best reduce manufacturing costs with...

R-W “TWIN-TRAK” OVERHEAD AUTOMATIC DISPATCH SYSTEMS

Industry's prime goal throughout the '60's will be to achieve substantial manufacturing cost-reductions. The handling of materials offers the greatest cost-cutting frontier and reduced costs will be accomplished only with a true "integrated" materials handling system . . . a system that co-ordinates all processing functions on a door to door or plant wide basis.

R-W “TWIN-TRAK” Systems offer this materials handling concept of tomorrow—today. For here is a completely automatic conveying system that not only moves products from one point to another, but automatically conveys parts and

If you are planning to modernize your present plant or build a new one, it will be to your advantage to let a qualified R-W Materials Handling Specialist survey your facilities or plans. At no obligation, he will gladly submit a plan to show you how to best solve your specific materials handling problem. Write for “TWIN-TRAK” Catalog.



An R-W “TWIN-TRAK” Overhead Automatic Dispatch System consists of one or more Power Tracks and as many Storage or Load Tracks as desired plus Switches, Carriers, Accessories and Power Equipment. “TWIN-TRAK” Systems are economical to install, operate and maintain . . . easily expanded, altered or relocated as necessary.

components to predetermined work stations throughout all production processes . . . parts and components that are automatically selected “from overhead” inventory banks and conveyed where they are needed—when they are needed. R-W “TWIN-TRAK” Systems not only improve materials handling but also permit the co-ordinated use of new production techniques and machinery to provide “machine muscle” for the raising, lowering, moving and transferring of parts and components to produce products faster and more economically. Now is the time to investigate the “cost-saving” potential offered by an R-W “TWIN-TRAK” Overhead Automatic Dispatch System.



Richards-Wilcox

MANUFACTURING COMPANY
MATERIALS HANDLING DIVISION

420 W. THIRD ST., AURORA, ILL. Branches in all Principal Cities

Circle 105 on Reader Service Card



The PAY-OFF is PROFIT with Shepard Niles JOB-MATED Hoists

Wasted overhead space in your plant is eating up profits! Make it pay off by installing an overhead traveling hoist to free valuable floor space and aisles for production or storage, cut handling costs, and increase overall plant efficiency.

To give long, economical service, the hoist must be matched to the job. At Shepard Niles, we specialize in providing "Job-Mated" hoists that have the ideal combination of capacity, clearance, speed and controls needed to match performance to precise job conditions. Custom built to your most exacting specifications.

Whatever your requirements, check first with Shepard Niles—you're sure to find the right hoist for the job among the thousands of types and sizes available.

To find out how Shepard Niles "Job-Mated" hoists will pay off in your material handling operation, send for a free descriptive bulletin, and ask to have a Shepard Niles representative call.

Balanced Drive Hoists from 250 lbs. to 20 tons

SHEPARD NILES
CRANE AND HOIST CORPORATION

2710 Schuyler Ave., Montour Falls, N.Y., U.S.A.

Circle 113 on Reader Service Card

40

COST CUTTING IDEAS

is exhausted in the separator. Here the scrap flow to the baler below is controlled by electric eye devices. The entire operation is automatic. Only one man is needed in the baling and material handling operation.

A pinch table conveyor and hogger, in the baling room, takes large pieces of scrap board, crushes



and tears them into small pieces before blowing them through air-conveying ducts in the separator above the baler.

The baler compresses the scrap board into bales 6 feet long, 36 cu ft in volume, and weighing nearly 1,000 lb. The baled scrap goes to paper mills for processing.

The company reports that the scrap removal system is so complete that it's simple to keep the plant neat and clean at all times.—*Balemaster Division, East Chicago Machine Tool Corp.*

Circle 261 on Reader Service Card

Close-quarter Work Eased

Macomber, Inc., Canton, Ohio, makes steel truss joists and roof



beams. They use a 7-ton self-propelled crane for transporting finished products from the paint shop to loading areas, to storage areas.

Continued on page 42

MATERIAL HANDLING ENGINEERING

ELPAR
"Cargo-Scout"

...For **FAST ACTION**
in **TIGHT SPOTS!**

Here's a fast truck built to slip through narrow aisles...load freight cars and trucks...keep things moving on crowded docks. ELPAR's ultra-compact Cargo-Scout, designed to solve your trickiest material handling problems, is a heavy-duty, stand-up, end-control electric fork truck built for speed and handling efficiency.

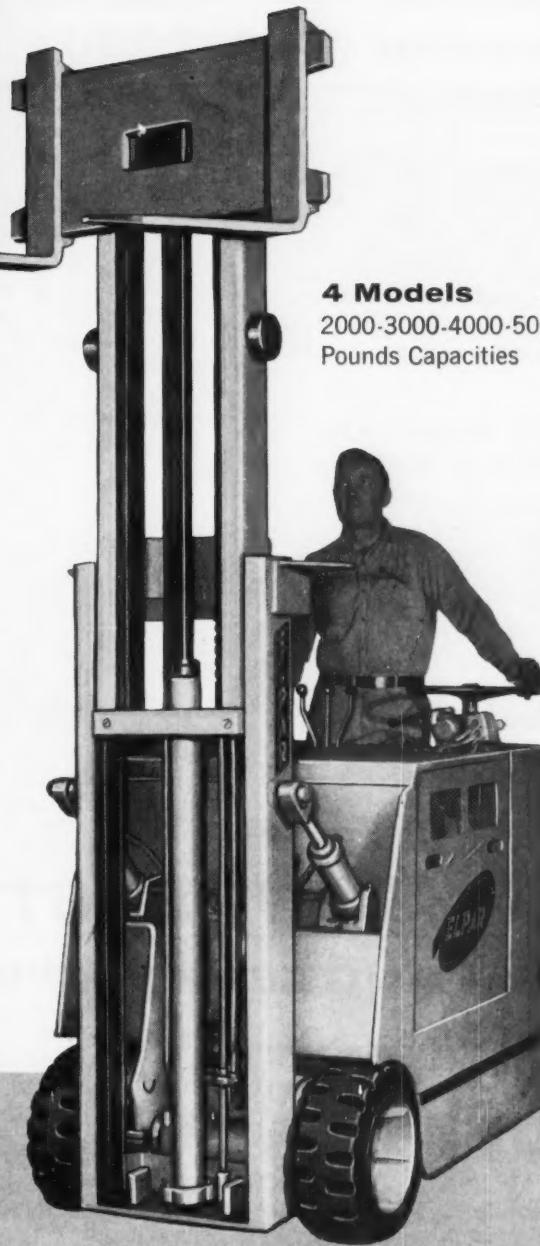
The Cargo-Scout's short wheelbase and narrow overall width assure maximum maneuverability in congested areas. Its safety-engineered optional hand or foot controls enable the operator to drive forward or backward with equal ease. Fast acceleration and high speed lift and travel assure maximum productivity.

Although small and compact, the ELPAR Cargo-Scout accommodates a full-size 32 volt battery — power packed for a full 8 hours operation!

Dozens of other *user-important* advantages of the ELPAR Cargo-Scout await your inspection. Compare the Cargo-Scout with any other competitive truck. Feature by feature, the Cargo-Scout adds up to *substantial* handling cost reduction.



This "Cargo Scout" is used for narrow aisle stacking at the distribution center of the Stop & Save Trading Stamp Corporation, a wholly-owned subsidiary of The Grand Union Company.



4 Models

2000-3000-4000-5000
Pounds Capacities

You can **LEASE** a Cargo-Scout under the flexible, low-cost ELPAR lease plan.

Send for this
Cargo-Scout catalog today!



THE ELWELL-PARKER ELECTRIC COMPANY

4231 ST. CLAIR AVE. • CLEVELAND 3, OHIO
In Canada: International Equipment Company, Ltd.

Leading producer of electric powered fork, platform and crane trucks

Circle 48 on Reader Service Card

COST CUTTING IDEAS

The machine works in a space 400 ft wide by 3,000 ft long. It makes lifts up to 5,000 lb in its 16-hour working day. The 4-wheel drive crabs sideways for close-quarter stockpile work.—*The The Shovel Co.*

Circle 262 on Reader Service Card

Marker Speeds Up Candy Box Marking



The overwrap on all its candy packages is the same so Barton's, Inc. marks the contents on each.

They use the Whippet, an automatic, in-line marker. It imprints the wrapper as the box comes off the packaging machine's conveyor line. It matches the speed of the wrapping machine, 55 boxes a minute.

Friction between the moving package and the Whippet's marking head starts the marking cycle. The printing drum spot prints, then automatically revolves to a positive stop, ready for the next package. A reservoir feeds ink to the printing head through a felt roller. The print is clear, unsmudged.—*Industrial Marking Equipment Corp.*

Circle 263 on Reader Service Card

To handle items of widely assorted sizes and shapes they have



this fleet of four pneumatic-tire lift trucks of 2,000- and 4,000-lb capacity:

- Challenger 40 with Cart-N-Grab hydraulic clamp.
- Challenger 20 with Load-Grab clamp.
- Two Challenger 20's with standard load arms.

The lift trucks combine low re-

Continued on page 44

SUPER STRENGTH in Light Metal with LANGSENKAMP'S **ALUMINUM DOCKBOARD**

... achieves a tensile strength of 65,000 p.s.i.—more than steel plate!

STILL
AS LOW AS...
\$49.00
(24" x 48" size)

WRITE FOR THE FACTS
IN OUR NEW FOLDER...
"DOCKBOARD 1960"

- No maintenance problems
- Flexible for any situation
- Permanent non-skid sand and latex coating (optional)



EXTRA SAFETY FEATURE

The ONLY lightweight metal dockboard with built-in warning signal. It flexes and sets when overloaded.

F. H. LANGSENKAMP COMPANY
227 East South Street • Indianapolis 4, Indiana

Circle 76 on Reader Service Card

how Security Engineering cut storage costs



an H-25 PAYLOADER® enabled them to . . .

1. Cut manpower needs for material handling by 70%
2. Save time and demurrage charges
3. Devise a simple perpetual inventory system for the entire storage yard

The Security Engineering Division of Dresser Industries in Dallas, Texas, manufactures drill bits and special equipment for use in the petroleum industry. Forgings arriving regularly in freight cars must be unloaded and delivered to outdoor stockpiles . . . later, from stock to shop.

Wins Competitive Test—A Model H-25 "PAYLOADER" tractor-shovel was selected to do this work after it easily out-performed a competitive machine in an on-job demonstration. In unloading forgings, it

easily maneuvers in and out of boxcars, getting loads that average 1,800 to 1,900 lbs. It has unloaded as many as three cars (180 tons) in one work shift.

Safe, Easy Operation—The "PAYLOADER" operator says he particularly likes the H-25's automatic transmission with matched torque converter. It allows him to crowd into a pile of forgings without worrying about damaging the loader. He also likes the roll-back bucket feature at ground level and easy power steering.

There's No Limit to the cost-cutting usefulness of a "PAYLOADER" for protection against the squeeze on profits. For any bulk handling, indoors or outdoors, there is a *proven* "PAYLOADER" to do the job more efficiently—20 models in 8 capacity ranges, up to 12,000 lbs. And, they are backed by the largest, most experienced network of distributors in the industry. Contact your Distributor, or write us for complete details.

HOUGH®



THE FRANK G. HOUGH CO.
LIBERTYVILLE, ILLINOIS
SUBSIDIARY - INTERNATIONAL HARVESTER COMPANY



THE FRANK G. HOUGH CO.
731 Sunnyside Ave., Libertyville, Illinois

11-A-3

Send "Industrial Materials Handling the PAYLOADER way"

Name _____
Title _____
Company _____
Street _____
City _____ State _____

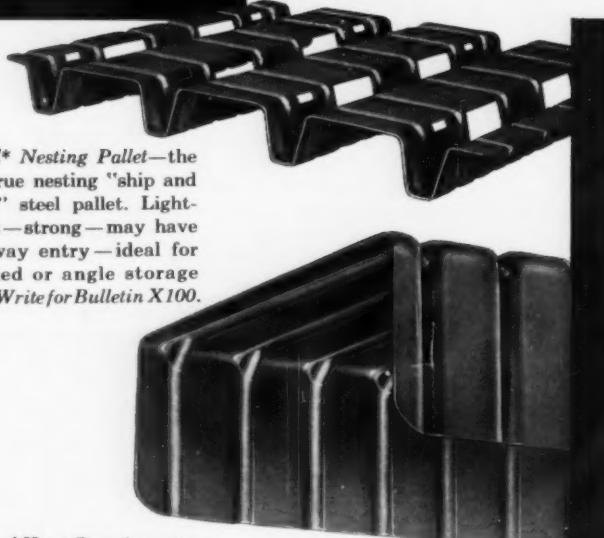
Circle 66 on Reader Service Card

3 POWELL EXCLUSIVES

REDUCE PRODUCTION HANDLING COSTS, SAVE SPACE, SPEED OPERATIONS



Flow-Matic Production Systems* can reduce work station handling by 50%. Fastest, most efficient handling method available. Write for Bulletin FM.



Nesteel Nesting Pallet*—the only true nesting "ship and return" steel pallet. Lightweight—strong—may have four-way entry—ideal for confined or angle storage areas. Write for Bulletin X100.

Integral Knee-Brace construction* eliminates conventional platform weakness—adds years of service at no extra cost. Write for Bulletin 2449.

THE POWELL PRESSED STEEL COMPANY
100 ERIE STREET • HUBBARD, OHIO

The most complete line of material handling equipment.

Circle 50 on Reader Service Card



COST CUTTING IDEAS

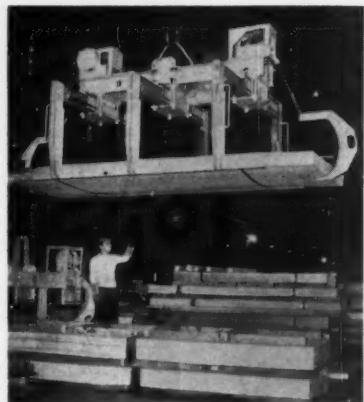
tracted height with high-stacking ability. The warehouse contains 40,000 sq ft of floor space, and has a 20-foot stacking clearance.

Goods come in packed solid in boxcars or truck vans. Warehousemen unload and stack in unit loads for Cart-N-Grab handling. In storage, they align the stacks with the clamp arms and side-shifting grab unit.—*Hyster Co.*

Circle 264 on Reader Service Card

Special Sheet Lifter Speeds Production

Packs of sheet steel, from 18 to 60 inches wide, are handled quick-



ly and safely at the Inland Steel Indiana Harbor Works. They use a motorized rack-and-pinion sheet lifter.

It stacks the packs and removes them. It takes loads up to 31 inches high and up to 20,000 lb. Raising and lowering is controlled by the crane operator from his cab, on signals from a crane follower on the floor.

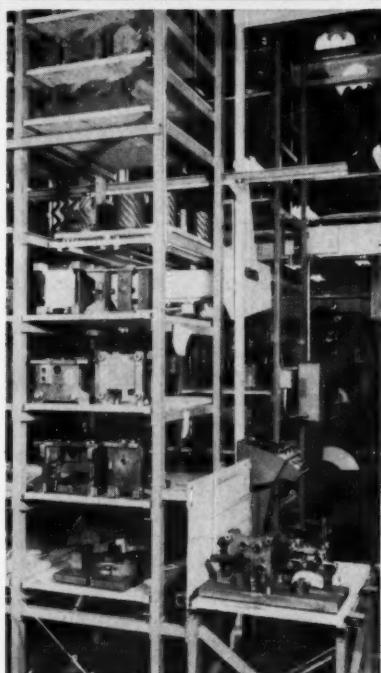
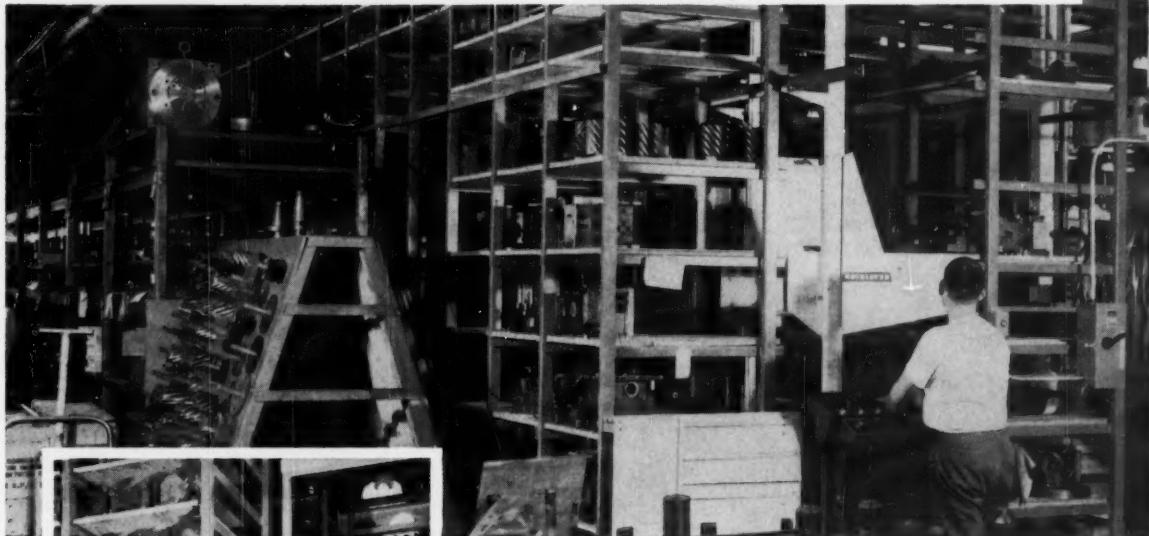
They picked the rack-and-pinion lifter because it handles loads that vary greatly in width. It requires little headroom. Designed primarily for loads up to 120 inches long, it will accommodate even longer loads by the use of end grabs.—*The Material Handling Division of Hespel Company.*

Circle 265 on Reader Service Card

MATERIAL HANDLING ENGINEERING

\$22,400 PROVIDES PUSH-KEY STORAGE*

FOR 768 SETS OF TOOLS AND FIXTURES



SAVE 70% ON SPACE... 30% ON LABOR!

In this new R-46 *Retriever*® installation at the New Philadelphia, Ohio, plant of the Warner and Swasey Co., many factors were of prime consideration.

A need for storage of dies, fixtures and special tools . . . making maximum use of a limited amount of space and offering quick, easy access to the items stored . . . presented pressing problems.

As installed, the TRIAX® R-46 *Retriever* provides 768 openings of 1000-lb. maximum capacity with a load base dimension of 24" x 36" . . . twice as much storage volume as was available with the equipment previously used. 3,270 square feet of floor space was released for other use. Tooling time and return to storage time were significantly reduced.

In this case, the *Retriever* helped solve a serious space shortage and tool die and fixture storage problem. It is also being used for work-in-process, electric motors storage, and other material handling applications.

We would welcome the opportunity to discuss the possible advantages of an R-46 *Retriever* installation in your factory or warehouse.

*F.O.B. Euclid, Ohio

This simple, push-key console controls the unique two-way *Retriever*®. The keys on the left set the *Retriever* to deliver an incoming load into the desired opening. Setting the right-hand panel will direct the *Retriever* to bring back any other load on the return trip.

THE TRIAX COMPANY
Sweetbriar 1-9800

11955 SHAKER BLVD.

• CLEVELAND 20, OHIO
Circle 124 on Reader Service Card

November 1960





PRODUCT NEWS

Stackers Displayed

Crown Controls has its line of E-Z Lift low-cost, powered elevators at Booth 441. Illustrated is model WT-



110, power-propelled and rated 1,500 lb. It fits in narrow aisles, lifts 110" for a free lift of 60". Features: 3 speeds forward and reverse, 24-volt battery, built-in charger. Traction drive floats, has dynamic braking.

Crown Controls Co., Inc.
Circle 300 on Reader Service Card

Precision Control Crane

Colson's Herculift M-10 crane lifts and spots 2½ tons accurately to 10



thousandths of an inch. Powered boom moves in three planes, raises 9 ft,

extends 6 ft, swings crosswise into difficult places. Transported manually or by optional battery-powered Dyna-Drive attachment. Drive features fluid coupling, carries no part of load. It adapts quickly and easily to any mobile equipment, does away with manual pushing.

Colson Corp.

Circle 301 on Reader Service Card

Bulk Handling Is Easy

Handle small parts easily; store and transport them conveniently. Junior



Palletainers have hinged sidegates for easy access and clear visibility to contents even when stacked. Sturdily made of steel rod, welded with 1½" mesh openings. 500 lb. capacity. Get specs, literature at Booth 313.

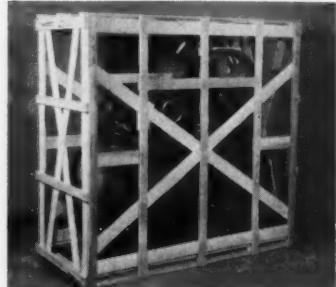
Union Steel Products Co.

Circle 302 on Reader Service Card

Save With KD Boxes

Collapsible wooden crates are durable, store in small space, assemble rapidly, says Bigelow-Garvey. Visit

Booth 232, they have miniatures on hand demonstrating versatility and



cost-savings you may realize from collapsible crates.

Bigelow-Garvey Lumber Co.

Circle 303 on Reader Service Card

New Tray for Light Parts

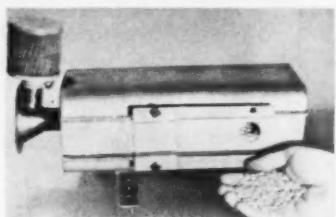
A nesting-stacking tray called Lightloader is featured by National at Booth 226. This tray, part of a complete line of materials handling receptacles, is designed for the control of light intricate parts.

National Vulcanized Fibre Co.

Circle 304 on Reader Service Card

Stop Exhaust Smoke

Oxy-Catalyst exhaust purifiers eliminate much of the carbon monoxide and other impurities expelled into



the air by gas and diesel engines, says the maker. The purifiers attach to the engine, catalytically change CO gas into harmless CO₂ and water. At Booth 112, they'll show you how

Continued on page 48

Product items 300 to 343 in this section are equipment exhibited at the MHI Central States Show. For more information circle the numbers on the Reader Service Card, page 87.

"In the
scot"
*you get all the advantages
 of the Electric Type...and*

YOU GET THESE ADVANTAGES, OF COURSE:

- Acceleration
- Safety, less operator fatigue
- Less down time
- Much lower maintenance
- Quiet, clean, fumeless operation
- Lower insurance
- Huge savings over the long term



*Let us show you how 20 SCOT
 Electric Lift Trucks may save you
 \$200,000 a year!*

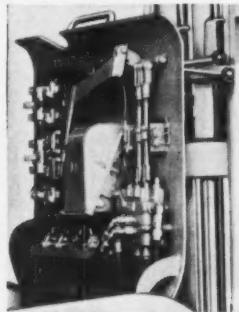
PAY ONCE FOR YOUR TRUCK AND BE SCOT-FREE OF MAINTENANCE
 Circle 117 on Reader Service Card

THEN SOME!

**IN THE SCOT YOU GET ALL
 THESE EXTRA ADVANTAGES ...
 AT NO ADDITIONAL COST:**

- 52" turning radius
- Top speed and power in its class in both travel and lift—20% gradeability
- Unitized construction
- Maximum visibility
- Fewest moving parts
- Unrivalled accessibility (see illustration) and savings in maintenance
- Guarantee for one year on parts and service assured by a 36-year-old organization
- Finest trade name components obtainable

All SCOT controls are mounted on the underside of the top cover for instant get-at-ability.



**JAMES
 CAMPBELL
 SMITH**



**INCORPORATED
 WILLOUGHBY, OHIO**



**There's a way to do it
better—at less cost**

WITH Olson CONVEYORS

manufactured by SAMUEL OLSON MFG. CO., INC.
2426 Bloomingdale Avenue

Chicago 47, Illinois

DIVISION OF CHERRY-BURRELL CORPORATION
Circle 100 on Reader Service Card

PRODUCT NEWS

vehicles may operate indoors, underground, in confined spaces without noxious fumes or haze.

Oxy-Catalyst, Inc.
Circle 305 on Reader Service Card

Yard Ramp Is Skidproof, Portable

Mageco portable yard ramps solve problems of ground-level loading in trucks and freight cars. Serrated open-deck runways are self-cleaning, provide good traction in all weather. Safety curbs 4" high minimize danger



of equipment running off. Curb imprinted with customer's name. Capacities from 7,000 lb to 100,000 lb (special order). Magnesium construction. Get the story at Booth 161.

Magnesium Company of America
Circle 306 on Reader Service Card

Mobile Crane Line

A-W cranes are completely mobile, reach into hard-to-get-at places. Capacities range from 5 to 11 tons. Boom rotates in continuous circle,



extends, lifts with precision. All controls hydraulic. Scale models, movies, other visual aids show applications and optional attachments in Booth 514.

Austin-Western
Circle 307 on Reader Service Card

Charger Needs No Attention

It's simple to charge a battery with a self-regulating La Marche Re-

Continued on page 50



a boat manufacturer did ... Now, packing boats in stapled corrugated cartons takes half as long as nailed crates and the reduced weight cuts freight costs.



a ski manufacturer did ... It takes only 2½ minutes to pack a pair of skis compared with 7½ minutes by the old method—stapling is 3 to 4 times faster. For ski accessories, the company changed from wooden boxes to stapled cartons—transportation costs were cut 50 per cent and packing time 75 per cent.

PROVE

TO YOUR SATISFACTION
IN YOUR OWN SHIPPING ROOM THAT BOSTITCH
STAPLING SAVES TIME,
MONEY AND SPACE, AND
REDUCES DAMAGE CLAIMS



an oil-heater manufacturer did ... By putting one-and-a-half oil heaters in Bostitch-stapled cartons, packing costs were cut 50 per cent and freight costs also reduced. Shipments have been completely damage-free.



a water fountain manufacturer did ... And production went up to a carton a minute compared to one every five minutes with nailed wooden cases. A 55 per cent decrease in damage claims and an 18 to 20 pound decrease in shipping weight plus a saving of 1900 cubic inches in size helped increase profits.



a cosmetics manufacturer did ... And box assembly time was cut in half. Result: four-tenths of a cent a unit was saved. Only 2 staples are required for most of the 28 different size boxes this manufacturer uses.

Call the Bostitch Economy Man for an in-plant demonstration in your shipping room. He can prove—with your own personnel—that Bostitch in your plant will improve shipping operations. He's listed under "Bostitch" in your phone book.

Fasten it better and faster with



711 Briggs Drive, East Greenwich, Rhode Island

Circle 17 on Reader Service Card

PRODUCT NEWS

ADD 1/3 rd MORE SPACE NOW

TO YOUR EXISTING STORAGE FACILITIES WITH THE

NEW RAYMOND Reach-Fork®

LIFTS
4,000 LB. LOADS
20 FEET HIGH
FROM A
7-FOOT AISLE

The new RAYMOND Reach-Fork right-angle tiers pallet loads up to 20 feet from aisles as narrow as 7 feet* . . . nearly half the width counterweighted trucks require . . . giving you an extra row of storage for every 12 foot aisle now used!

This is not a "beefed-up" model of a truck designed 10 years ago . . . but a brand new unit . . . built from the ground up to withstand tough, continuous performance, fully loaded, indoors or out . . . on long ramps . . . on slippery or uneven floors . . . and in narrow RAYMOND aisles. Does all this at fast travel and elevating speed! Operates hour after hour, day after day with minimum maintenance—there is no other truck like it! Send TODAY for Free Bulletin containing complete details.

*for exact aisle width consult your RAYMOND representative.

Ask about
Raymond's
lease-rental
plan!

The RAYMOND CORPORATION

3397 Madison St., Greene, N.Y.

Please send new 4000 lb. Reach-Fork bulletin

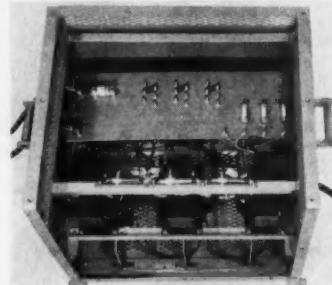
NAME _____
COMPANY _____
STREET _____
CITY _____

TITLE _____

STATE _____

Career Opportunities for Product Design Engineers—Write RAYMOND today!
Circle 103 on Reader Service Card

charger, says the maker. Just plug it in and walk away. Starting rate, taper, and trickle charge determined automatically. There's nothing for



an unskilled operator to set, no gas point to watch. Same charger used on batteries with different capacities. No moving parts. Learn more at Booth 533.

La Marche Mfg. Co.

Circle 308 on Reader Service Card

Tiny Bins Speed Assembly

Plastibox containers hold small parts in storage, move out to the line for assembly and line feed. Four



sizes stack securely on tables or trucks, with or without mounting rails. One-piece molded plastic construction; smooth, strong, easily cleaned, non-corrosive. Protect hands and delicate parts. See them and the Lewis line of Stack-n-Nest tote pans at Booth 415.

G. B. Lewis Co.

Circle 309 on Reader Service Card

Shows Cranes, Vacuum Lifts

You can get Trambeam overhead handling equipment in both crane and monorail systems. Both types are custom engineered to individual needs. They're on display at Booth 143. You'll also see Whiting's Pres-

Continued on page 52

Bagpak Pallet by International Paper



These tough pallets still do their job after long-haul shipment and months of snow and freezing temperatures.

Trial by weather!

International Paper Bagpak_® Pallets survive prolonged storage in snow and severe winter weather with no damage to multiwall bags.

WE DON'T recommend storing Bagpak Pallets in the snow. But when one of our up-state New York customers did, he learned the meaning of *real* protection.

The pallets in our photograph, travel-worn and weather-beaten but still completely serviceable, survived the rigors of shipment, *plus* exposure to winter weather for several months! When they were opened, *every* multiwall bag was safe and uniform.

And ready to do its job—no matter how tough.

International Paper pioneered this method of shipping and handling multiwalls. Our pallets now have *four* years of on-the-job experience.

And the Bagpak Pallet has a rigid construction that eliminates transit damage due to abrasion. Plus a square design that means a big saving in storage area.

Sixty-two years of papermaking

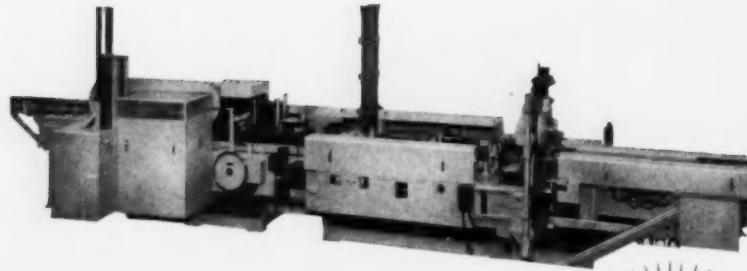
and materials-handling experience are compressed into every Bagpak Pallet. And these rugged pallets are only part of a *complete* multiwall packaging service offered to you by International Paper — world's most experienced papermaker.

Whatever your multiwall packaging needs, you will find it profitable to talk to your Bagpak packaging engineer. He has complete information. It's yours for the asking.



INTERNATIONAL PAPER
BAGPAK DIVISION • NEW YORK 17, N.Y.

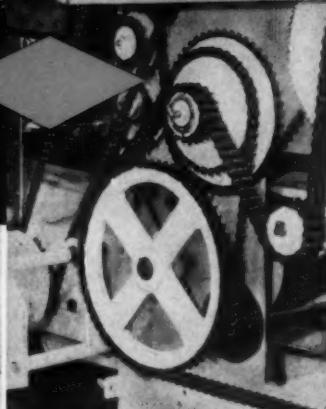
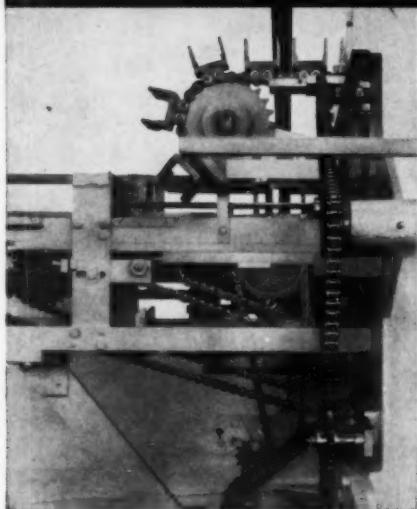
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YOU CAN'T BEAT THIS WRAP!

Redington wrapper makes fast work
of Listerine pack.. with action
SYNCHRONIZED by

DIAMOND
ROLLER CHAIN



Redington wrapping machines, used by Lambert-Hudnut Manufacturing Laboratories conveys, and applies corrugated liners, circulars, end protectors, wrappers and seals to Listerine bottles at the rate of 120 per minute. DIAMOND Roller Chains maintain perfect synchronization of the complex operating cycle.

◆ DIAMOND Roller Chain is the ideal choice for power driven mechanisms employing synchronized, multiple shaft movements. DIAMOND's precision manufacture assures the uniform pitch and close total-length tolerances essential to accurate timing.

DIAMOND ENGINEERING SERVICE IS AVAILABLE. Write, giving full details of your problem. DIAMOND CHAIN COMPANY, INC., A Subsidiary of American Steel Foundries, 402 Kentucky Avenue, Indianapolis 7, Indiana. Offices and distributors in all principal cities.

DIAMOND



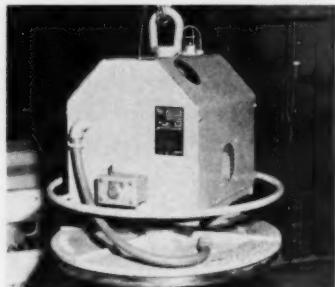
ROLLER
CHAINS
®

Circle 44 on Reader Service Card

52

PRODUCT NEWS

suregrip vacuum handling systems. These use suction grippers to handle



steel plate, other materials difficult to grasp. Picture shows single gripper and suction unit.

Whiting Corp.

Circle 310 on Reader Service Card

See Trucks at Work

A broad range of Lewis-Shepard's electric industrial trucks may be seen at Booth 335. Working demonstrations show what they can do. Of interest: this rider-type, high-stacking remote-controlled unit for stock picking. The operator drives while standing on the platform. He has a full set of controls—steers, lifts, drives from his stand-drive position. The truck enters



narrow aisles between bins. L-S engineers will be glad to aid in solving any materials handling problems.

Lewis-Shepard Products, Inc.

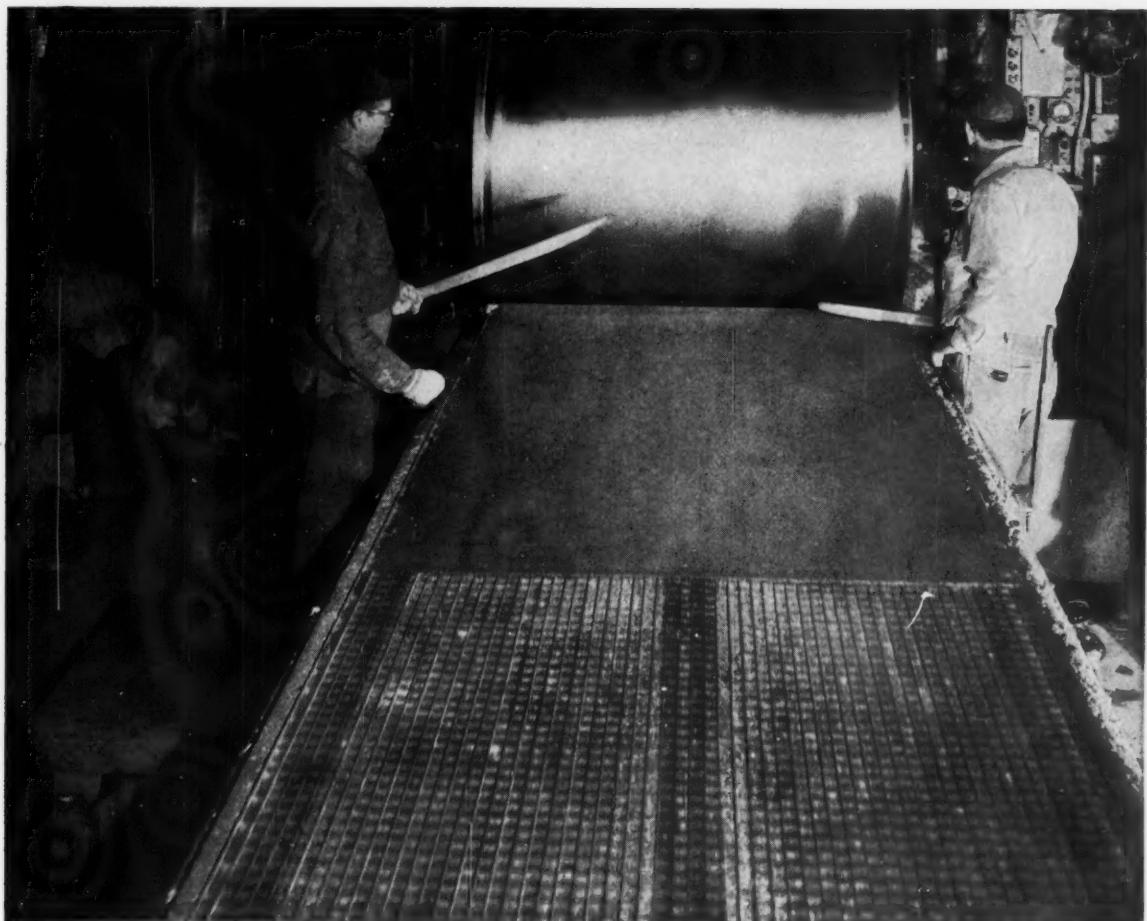
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For more

PRODUCT NEWS

turn to page 97

MATERIAL HANDLING ENGINEERING



"Our Cyclone conveyor system saves time, materials and manpower"

"Our USS Cyclone Conveyor Belt system has been in service for approximately 12 years," says Mr. O. R. Hoeltzel, General Superintendent of the RUBEROID Co.'s asbestos-cement products plants, St. Louis, Missouri. "We use Cyclone flat wire conveyor belts on all oven conveyance lines and in several auxiliary operations. They do the conveying jobs they were designed to do and have helped us to produce a complete line of asbestos-cement building products more efficiently under difficult operating conditions. We are very well satisfied with their dependability, flexibility, and convenient, fast maintenance."

Is there an area in *your* plant where
Circle 149 on Reader Service Card

manpower and materials are being wasted? Talk to a trained Cyclone belt specialist. He'll figure out a fast, more efficient way to process your product with a USS Cyclone Conveyor Belt. Then we'll design the exact type of belt you need to do the job. For more information, send in the coupon. No obligation.

USS and Cyclone are registered trademarks

American Steel & Wire
Dept. 0464, 614 Superior Ave., N. W.
Cleveland 13, Ohio

Please send me your free USS Cyclone Conveyor Belt booklet.

Name

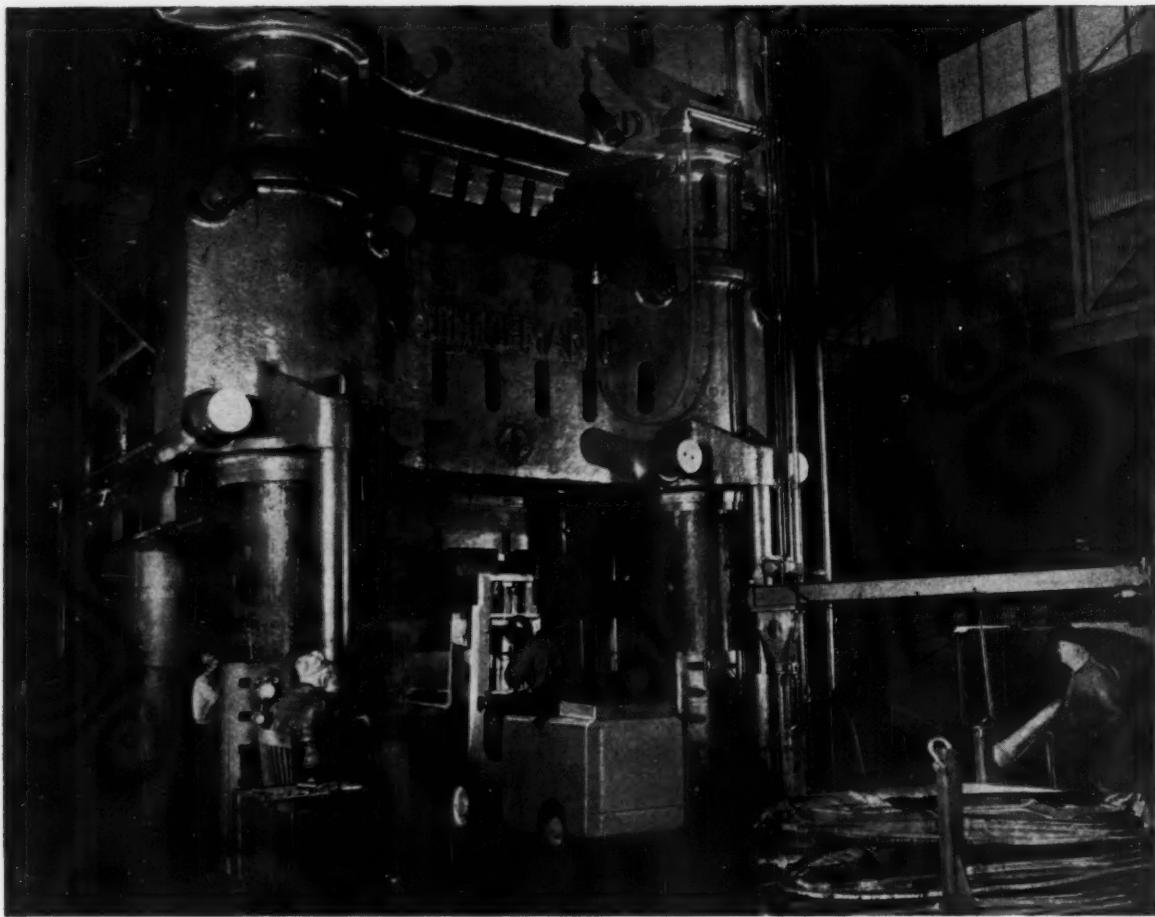
Address

City Zone State

American Steel & Wire
Division of
United States Steel



Cyclone sales offices coast to coast



Get full production from electric trucks— Power with C & D *Slyver-Clad*® batteries!



Records from many types of operations prove electric trucks are best for materials handling operations requiring industrial trucks. And when you power them with premium C & D *Slyver-Clad*® batteries, you get maximum capacity per unit of space. This in turn means continuous, full-production, without power letdown at the end of a shift.

In addition, C & D premium *Slyver-Clad* batteries have *Hi-Impac* cell covers and containers. This *exclusive* C & D feature alone virtually eliminates taking a truck out of service because of physical damage to the battery.

C & D batteries have Five-Fold *Slyver-Clad* insulation and retention that assures maximum life with full capacity to the end of that life, plus *AccuPak*® plates that are automatically pasted and 100% inspected by *AccuRay***. They are the longest, thickest plates available in any industrial battery. You get built-in extra life and the *AccuRay* inspection eliminates any possibility of trouble because of low cells.

C & D premium *Slyver-Clad* batteries are available with capacities from 225 to 2175 A.H. at the six hour rate and in any standard tray arrangement. Write for Bulletin IT-528 and see why *—C & D is your better battery buy.*



C & D BATTERIES
of Conshohocken, Pa. . . . Attica, Ind.

Div. THE ELECTRIC AUTOLITE CO.

Manufacturers of Slyver-Clad® Industrial Batteries • PlastiCell® and PlastiCal® Batteries for Communications, Control, and Auxiliary Power • Producers of AutoReg® Silicon Chargers and AutoCal® Charger-Battery Combinations

*® Trademark, C & D Batteries Div. The Electric Autolite Co.

** Trademark, Industrial Nucleonics Corp., Columbus, Ohio

Circle 26 on Reader Service Card

NOVEMBER 1960



CENTRAL STATES SHOW IN LOUISVILLE

THIS MONTH Louisville will be host to The Material Handling Institute's Central States Show. At the Kentucky Fair and Exposition Center, November 1-3, manufacturers will show the latest in material handling equipment to visitors from the Midwest and new industrial South.

The Central States Show is the second regional exhibition. Its purpose is to bring products to the market, rather than make the buyers travel long distances to see them.

The following pages will tell you about the show: who's exhibiting, who's speaking at the technical sessions, etc. This will be followed by "The Output Explosion in Louisville," in which associate editor Dick Dietz pinpoints material handling as the key factor in this city's industrial growth.

By working with top material handling men in Louisville, including technical conference chairman E. G. Klinstiver, editor Dietz was able to prepare a report of handling installations that accents their range and versatility. You should be able to cull useful ideas from these examples of material handling in Louisville.

Up-to-date handling is accented, as a new-design lift truck attachment simpli-

fies refrigerator handling for an appliance warehouse.

Mechanization of an old industry takes place as a container company uses machines to disassemble barrels and ship them.

Material handling at the point of sale brings benefits to customers of a department store and shoppers in a supermarket.

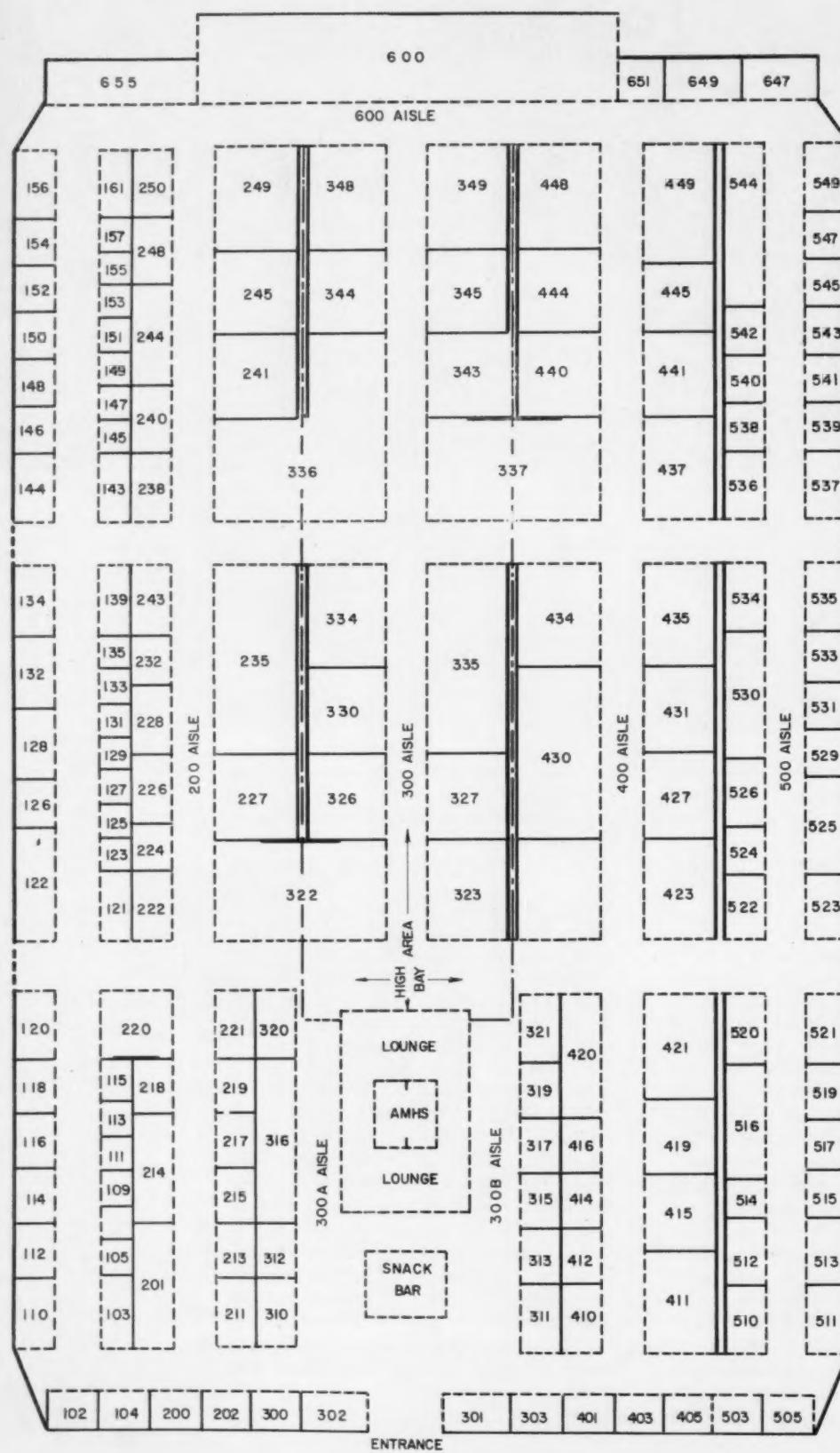
Printing keeps up with handling developments. One company conveys paper rolls automatically, and uses overhead cranes to move easily-damaged printing cylinders.

An enamel ware manufacturer and a maker of heavy equipment both turn to modern handling methods high in their foundries and on the production lines.

Food and drink aren't left by the wayside of handling progress. Bakers combine mechanized handling with processing to achieve a better product faster. And a distillery turns to automated filling and in-process handling to cut manual labor.

Louisville, an old city rejuvenated by modern industry, will be acknowledging the reason for her progress when she welcomes the MHI Central States Show this month.

FLOOR PLAN AND EXHIBITORS



BOOTH

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The Raymond Corp. 220
The Ready-Power Co. 217

Silent Hoist & Crane Co. 146
James Campbell Smith, Inc. ... 437
Spaulding Fibre Co., Inc. 536
Springport Steel Products Corp. ... 213
Stanley Steel Strapping Div.
The Stanley Works 427
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Borg-Warner Corp. 522
Wayne Mfg. Co. 513
Jervis B. Webb Co. 211
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Whiting Corp. 143

Yale & Towne Mfg. Co. ... 322, 323

Show Hours—Show hours on Nov. 1 and 2 are from 11 to 9, and on Nov. 3, from 11 to 5. Technical Conference hours are from 9 to 12 noon, all three days.

Market—The Central States Market includes Columbus, Dayton, Cincinnati, Indianapolis, Fort Wayne, Evansville, Champaign, Decatur, Charleston, Huntington, Louisville, Paducah, Nashville, Knoxville, Chattanooga, Memphis, Oak Ridge, and St. Louis.

The Central States hold special significance to many industries. The multi-billion dollar appliance industry heads this growing list. Nearly one-third of all household appliances marketed in the United States are manufactured in the Central States within a 200-mile radius of Louisville. This goes to 50% if the radius is extended to 300 miles. Nearly 25% of the nation's manufacturing is done within this 300-mile arc.

About 25% of the country's employment in the metal-working industry is in the Central States. Other main industries: tobacco, distilling, chemicals, rubber, paints and varnishes, plumbing fixtures, food, automotive components, farm equipment, printing and publishing.

The Ohio River itself is a well-used bridge for trade.

Credit Card System—A repeat from the New England Show will be the use of a register-as-you-go system of collecting literature and information. You get an Addressograph credit card that exhibitors will use to stamp your name and address on a form for sending you material you want. Later, the exhibitor sends the information to the visitor. This saves time and prevents errors. And the visitor isn't burdened with an armful of literature as he walks around the show.

Door Prizes—At the close of each daily show session, a \$500 debenture will be awarded as a door prize.

Issued by the Material Handling Equipment Distributors Association to finance its Training Center at Newport, R.I., the debentures bear interest at 6%. They mature in 4 years at cash value of \$620.

The innovation in regional trade show policy of awarding a high value cash prize was done to stimulate interest among industrial buyers in the show.

The door prize awards are limited to persons who use material handling equipment in factories, warehouses, piers, storage yards, and terminals. Ineligible are personnel from companies producing material handling and packaging products, and employees of dealer and distributing firms.

Technical Conferences—“Progress Thru Knowledge” is the general theme of the Technical Conferences. Thirty-three authorities in their respective fields will discuss various phases of material handling and packaging.

The sessions will be conducted by Region 4 of the American Material Handling Society, Inc. Chairman of the conferences Charles C. Bassett, Belknap Hardware and Mfg. Co., Louisville. Conference Chairman of Region 4 is E. G. Klinstiver, Falls Cities Transfer and Storage Co., Jeffersonville, Ind.

Cost of the Technical Conferences is \$10 a day or \$25 for all three days for AMHS members. Cost for non-members: \$12 a day, or \$30 for all three days. Conference hours: 9 AM to 12.

Future Shows—Two shows are scheduled for 1961. February 22-24 are the dates of the Pacific Coast Show at the Cow Palace in San Francisco.

The Eastern States Show will take place in Convention Hall in Philadelphia, May 9-11.

TECHNICAL SESSIONS

TUESDAY, NOVEMBER 1

ROOM A

Chairman: E. E. Garrison, Libby Owens Ford Glass Co., Toledo, Ohio.

Subject: "Reduce Losses, Increase Profits"

Speakers: William H. Sardo, executive vice president, National Wooden Pallet Manufacturers Association. "Pallet Standardization Moves Forward Internationally". Herbert H. Hall, material handling consultant. "Size and Types of Shipping Containers For Carrier Interchange"

ROOM B

Chairman: E. G. Klinstiver, AMHS Region 4 Conference Chairman.

Subject: "Zooming Into The Future"

Speakers: Wade S. Plummer, Director of the Office of Research and Engineering, United States Post Office. "Mechanization and Modernization of the Postal Service". John C. Malstrom, sales engineer, The Cross Co. "Automation in Industry"

ROOM C

Chairman: John Klomp, Continental Motors Corp.

Subject: "Cost Reduction Through Proper Material Handling"

Speakers: Dr. Paul T. Eaton, School of Industrial Engineering, Georgia Institute of Technology, Atlanta, Ga. "Brainstorming Down the Warehouse Aisle". Frank P. Frontier, General Motors, Chevrolet Division. "Material Handling Equipment Standards"

ROOM D

Chairman: Edward H. Leighten, regional manager, *Modern Materials Handling*.

Subject: "The Dollars and Sense of Safety"

Speakers: George A. Smith, Yale & Towne Mfg. Co. "Safety in Handling Material Handling Equipment In Your Shop". Walter W. Bryant, district supervisor of safety engineering, Markel Service, Inc. "Traffic Safety—Thinking, Feeling, and Doing"

WEDNESDAY, NOVEMBER 2

ROOM A

Chairman: R. Frank Weber, consulting editor, *Modern Materials Handling*.

Subject: "Watch Your Premium Dollar in Packaging"

Speakers: Charles J. Zusi, packaging consultant "Packaging To Do The Job It's Supposed To Do". Tom F. Mangold, Engineering Service Division, E. I. DuPont Co. "Bulk Shipping In Expendable Containers"

ROOM B

Chairman: William H. Green, president, Material Handling Equipment Co.

Subject: "Take It Home With You"

Speakers: Dr. A. A. Klautsch, General Motors Institute. "Reducing Tensions". Frank C. Wier, past president, Cleveland Chapter AMHS, and past national treasurer. "Man and Machines In Handling"

ROOM C

Chairman: Samuel Isaacs, Samuel H. Isaacs & Associates.

Subject: "Growing Pains"

Speakers: Walter R. Green, sales manager, Conveyor Division, The Rapids-Standard Co. "A New Approach To Cost Reduction". Robert C. Brady, Facilities Planning Service. "Materials Handling Cost—Get The Facts Before You Figure"

ROOM D

Chairman: Fred W. Sudhoff, industrial engineer, Procter & Gamble Co.

Subject: "Let's Talk About Safety"

Speakers: L. H. Bornoff, safety engineer, H. K. Ferguson Co. "Why People Do The Things They Do". John S. Chapman, education director, The Fyr-Fyter Co. "Main Causes of Industrial Fires"

THURSDAY, NOVEMBER 3

ROOM A

Chairman: W. B. McClelland, editor, *MATERIAL HANDLING ENGINEERING*.

Subject: "Pattern For Progress"

Speakers: James R. Bright, director, Industrial Management Center. "Significant Trends in Mechanization". Irving M. Footlik, Irving M. Footlik & Associates. "Finding New Ideas and Presenting Them To Management"

ROOM B

Chairman: W. P. Moroney, industrial engineer, Delco-Remy Division, General Motors Corp.

Subject: "Knowing's Not Enough"

Speakers: Richard L. Speaker, president, Speaker Sortation Systems, Inc. "How To Break Bottlenecks In Materials Handling". Carl W. Hirsch, President of Toledo Chapter AMHS. "Material Handling—An Important Factor in Automation Weighing"

ROOM C

Chairman: Miles J. Rowan, editor, *Modern Materials Handling*.

Subject: "Is Labor Putting a Price Tag on Mechanization?"

Speakers: Sears Hallett, publisher, *Modern Materials Handling*. "Management's View of Mechanization". Harold V. Gibbons, vice president, International Brotherhood of Teamsters, St. Louis, Mo. "Labor's Views Of Mechanization"



THE OUTPUT EXPLOSION IN **LOUISVILLE**

By **DICK DIETZ**, Associate Editor

IN THE LAST 10 YEARS, Louisville added 16,300 manufacturing jobs, making a total of 90,000. At the same time, value of industrial products doubled to more than \$1.1 billion.

In other words, Louisville's output went up faster than its labor force grew. That means industry achieved greater productivity per man. Mechanization and better material handling were largely responsible.

The output explosion can be traced partly to an investment of \$525 million in plant and equipment. Louisville added 92 new firms during the last 10 years and 67 firms made major expansions, some more than one.

Louisville, glittering city on the Ohio River, is the center of the biggest manufacturing complex in the South. It provides 12 manufacturing jobs for every 100 population.

Louisville, during the last decade, emerged as a major metals, machinery, and equipment center. But the city retained unusual diversification. For example, food and beverages, the largest single industry, employs only 15 percent of all manufacturing workers, and less than 5 percent of the area labor force.

Now for a quick survey of some handling practices and installations which enabled Louisville to achieve its industrial record.

Lift attachment to

A SIMPLE, VERSATILE, all-purpose lift truck attachment for General Electric Co.'s major appliance distributors and dealers will be shown for the first time at the Central States Show.

The attachment can handle up to six appliances unpalletized. Swivel blades engage underneath the lock cap portion of the carton cap for lifting. The bottom of the carton is supported by drop plates for protection. This attachment also has folding forks.

The idea behind this attachment is to enable General Electric dealers and distributors to handle appliances properly in their warehouses. John Patterson, manager of Commercial Service and Warehouse, says the attachment provides better handling and insures less damage. General Electric engineers helped develop the attachment, and Basiloid Products Company is the manufacturer.

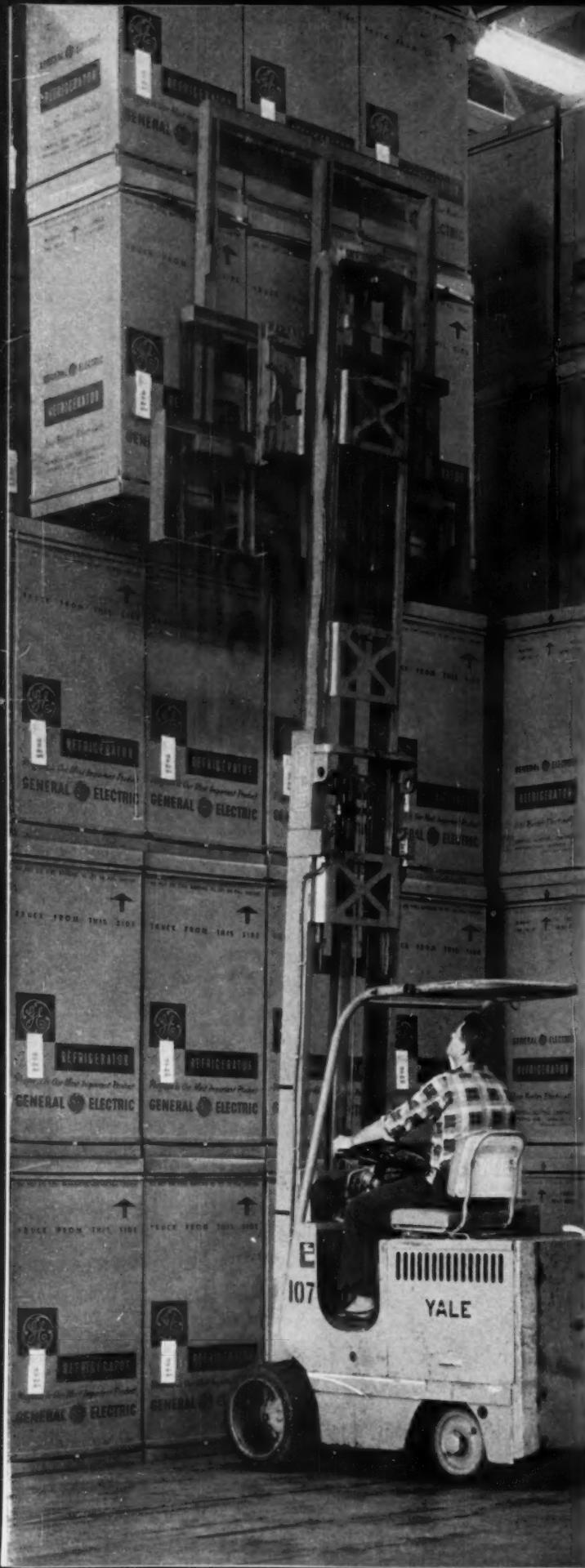
Help for the Warehouse.

The major appliance warehouse can receive an appliance every $2\frac{1}{2}$ seconds. Conveyors carry appliances



ATTACHMENT plates can go into a number of keyhole slots, depending on height of carton to be lifted. It can take cartons as low as 8", as tall as 80". Side extensions can be attached to keep cartons from swinging to the side.

SMALL TRUCK easily stacks six refrigerators to 24 ft. Bottom three cartons hang from attachment plates, support upper three cartons. Attachment is all-purpose, has hinged forks, side shifter, extension plates.



aid GE distributors

from the end of the assembly lines on overhead conveyors from the buildings manufacturing washers, dryers, ranges, dishwashers, Disposals, refrigerators, freezers, and room air conditioners.

During peak periods General Electric uses public warehouses for overflow. An experiment with an air inflated, reinforced vinyl building is being conducted to help house overflow during peak production. Warehouse Superintendent J. M. Angelo says, "The air inflated building has proven successful and has paid for itself many times over."

It has no internal supports. Air pressure of .27 lb/sq inch above atmospheric pressure keeps the building inflated. Maintenance workers can walk on top of the building to make repairs when necessary. One air blower provides the necessary pressure with a standby for emergency, a third blower goes on automatically as the large garage-type door opens.

The inflated building covers 6,000 sq.ft. floor area with a ceiling height 30 ft. in the center. It can be taken down or put up in 16 man hours. ♦



INFLATABLE WAREHOUSE sits next to main warehouse. Personnel carrier to left of bubble gives an idea of size. Entrance, an overhead garage door, is on other side of bubble.

ENTIRE INSIDE of bubble warehouse is available for storage. Lift trucks carry loads in and out with almost no loss of pressure. Continuous blowers keep the building rigid enough to support a man on top.



BARREL STAVES are tied in bundles, then loaded directly into a boxcar. Each package of staves comes from the same barrel. Each stave is numbered for reassembly.



GRIPPERS tug hoops from the barrels. Then the machine shaves the charred insides of the staves.

Whisky barrels for export

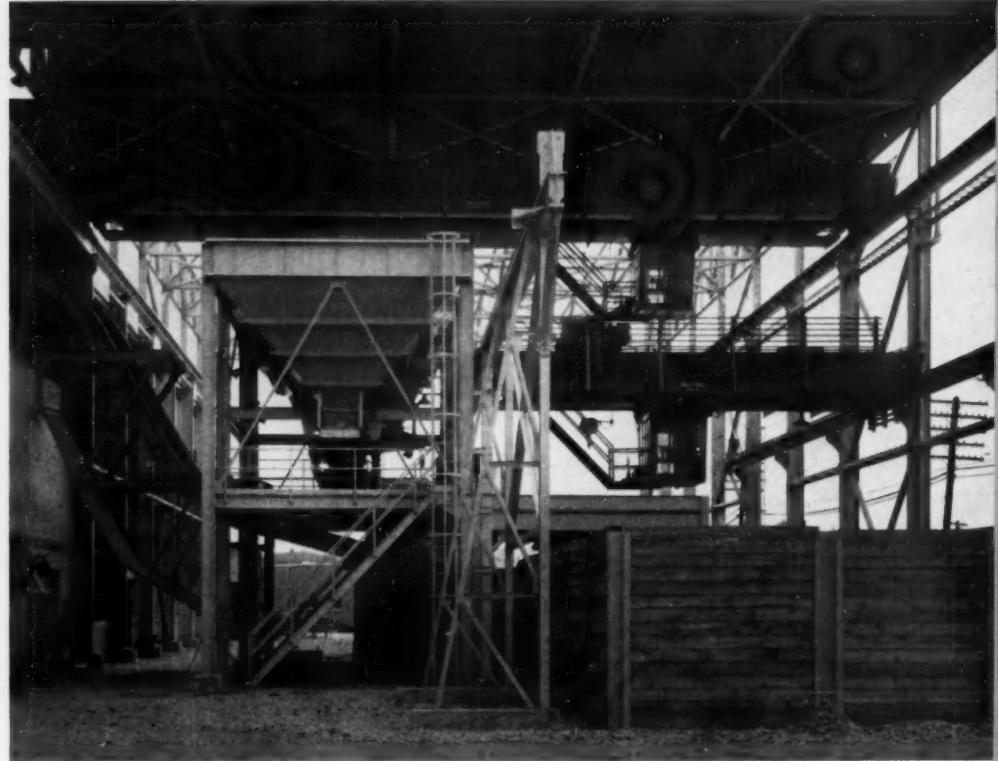
AMERICAN WHITE oak barrels, charred on the inside, can be used only once for whisky. But the used barrels are still good. So Universal Container Corp. reconditions them. Half go overseas to producers of distilled products; remainder to domestic producers of chemicals and foods in brine.

Universal made special machines to shave the barrel insides, sandpaper the outsides, remove hoops, measure staves electronically, number staves for reassembly, and strap the staves together for export. Barrel heads are done the same way. ♦

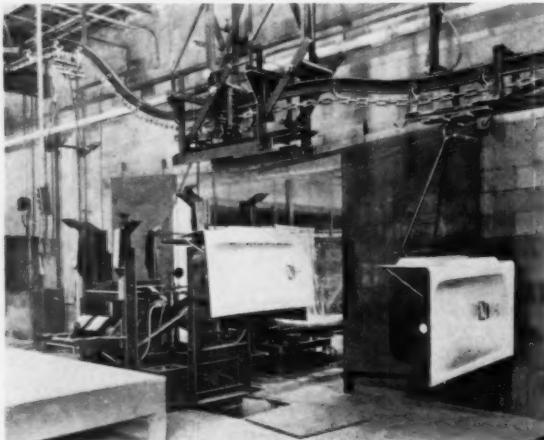


Handle, package big product

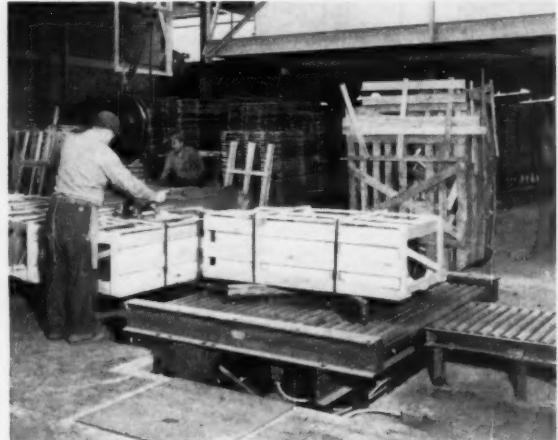
CUPOLA LOADING is semi-automatic. Five-ton makeup crane picks pig iron and scrap from bins at right and dumps into weighing hopper. Scale measures iron into skip bucket which travels up rails to left, dumps into cupola (out of sight on upper floor of foundry). Large 7½-ton bridge crane helps unload rail cars, maintains stock piles.



FINISHED TUBS on trolley conveyor approach crating line. Tub goes on turning device for transfer to roller conveyor. Arms above trolley steady the tubs.



TURNTABLE swings crated tubs after they have been through the automatic strapping machine. The tubs must be turned for proper palletizing.



A SHOWPLACE OF HANDLING is the American Radiator & Standard Sanitary Corp. Louisville Plant with its mechanized foundry, cleaning house, storage, and shipping systems.

A crane unloads rail cars of raw materials in the foundry yard. A makeup crane and skip hoist charge the furnace (cupola).

Inside the foundry—Molten metal from the cupola flows into ladles suspended from monorail cab-type cranes. The metal is quickly dispatched to the molding lines for pouring. The molds, some weighing eight tons, move rapidly on special live flanged-wheel conveyors. Molds are spaced by automatic indexing. Conveying must be gentle to protect delicate sand molds.

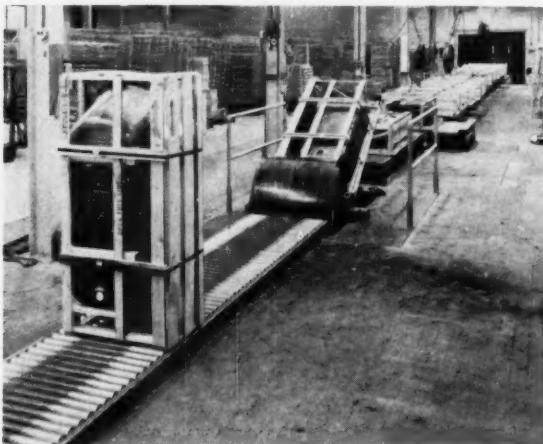
There are high production lines for tub castings and for small ware—sink and lavatory castings. There also is a unit for low production tubs and small-ware and a miscellaneous floor for traps, brackets, and such.

They put electric controls (except for pushbuttons and limit switches) in four pressurized rooms. This protects delicate electrical controls systems against dust and dirt. Pneumatic and hydraulic valving is panel mounted, piping manifolded. This enables them to find trouble quickly and to repair breakdowns with minimum downtime.

The cleaning house—Monorail cooling conveyors carry castings from the mold shakeout stations in the foundry to the cleaning house. After cleaning in an automatic blast machine, castings run through grinding booths on wheeled pallets. Next step is a slushcoat booth and drier where the base enamel coat goes on. Castings continue on the same monorail conveyor to the enamel shop.

The pallet system—After enameling, finished tubs go by conveyor to packaging where they're enclosed in nailed wood crates. Roller conveyors carry them through an automatic strapping machine, turntable, and an upender for pallet loading. Tubbs are segregated on pallets according to outlet position, color, and style.

TUB UPENDER sets them upright so they may stack three to a standard-sized pallet. Workers use a hoist to place crated tubs on pallets.



A COMPLETE packaging laboratory helps develop the right package. Here an impact tester puts a nailed wood crate through its paces.

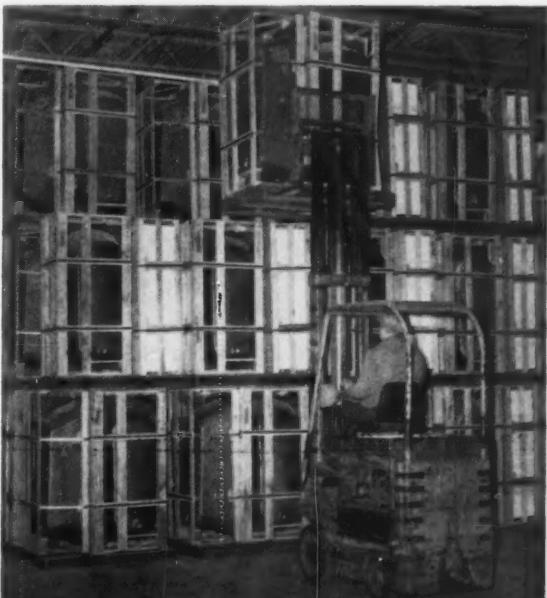
Photos by Logan Co.

Finished small-ware also goes to packaging on a monorail conveyor. Most small-ware goes in corrugated fiberboard boxes and then is palletized. This packaging line includes an automatic case sealer.

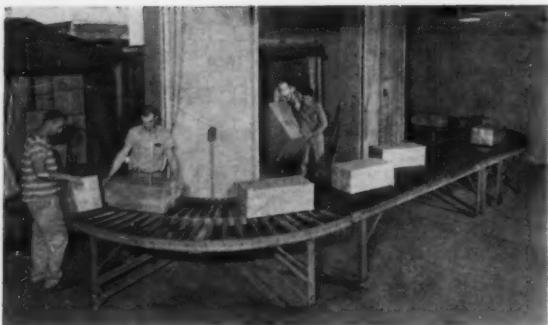
All pallets are 40" x 54", standard for the company. Chief Packaging Engineer C. R. Gustafson gets three tubs on a pallet, stacks them three high.

Testing the packages—Gustafson devised a packaging laboratory with an impact tester, drop tester, and vibration tester, all to ASTM standards. On the floor is painted the outline of a rail car. Says Gustafson: "When designing a package, we always keep in mind the limitations, such as where it has to fit." He works out package prototypes for the entire American Standard Plumbing and Heating Division. ♦

TUB CRATES fit three to the standard American Standard pallet, stack three high. Lift trucks take pallets to storage from the end of the packaging line.



Conveyors speed package handling



CONVEYOR STARTS right at receiving. Packages round two curves, transfer to a belt which dumps them on a slide to the basement. Packages wind up on the marking conveyors.

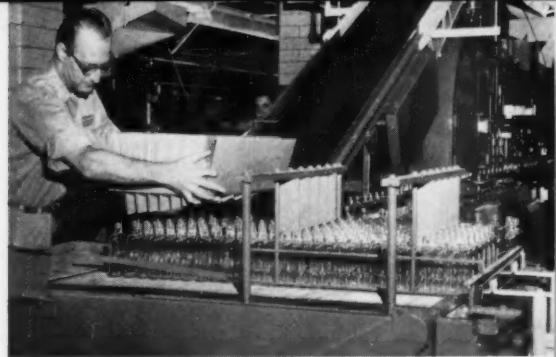


MARKING IS QUICK when packages arrive in the basement by conveyor from receiving. The system has been operating for a year. Monorail in the rear is for clothing.

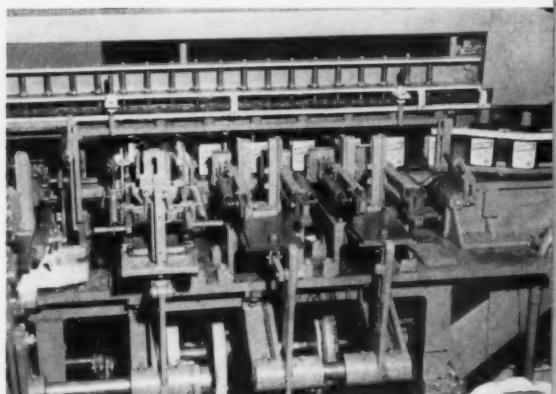


PACKAGE DELIVERY is fast at Stewart Dry Goods Co., Louisville's largest department store. One reason is this wrapping line. Wrappers merely shove wrapped and labeled packages on the belt, which takes them to the delivery distribution point.

Photos by Logan Co.



CHARLES ICE DUMPS empty pint bottles, then puts carton on conveyor to end of bottling line.



AFTER AUTOMATIC CAPPING, bottles go to labeling. Arms slap glue on bottle fronts, follow with label.

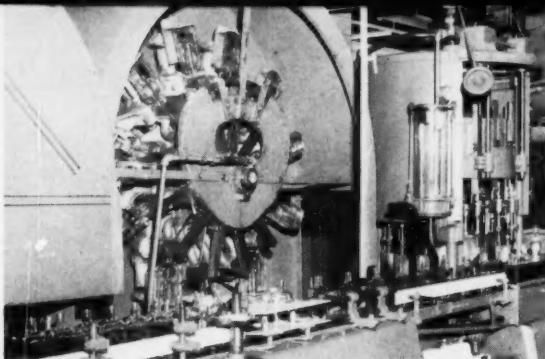
Automatic filling

KENTUCKY BOURBON may be as good as it was in the old days. But it's handled a good deal differently from when grandpa made his own. They've taken out most of the manual labor.

For example, 4-year-old straight whisky comes off the aging racks in barrels. They're hung on overhead conveyors. Moving at 12 fpm, the barrels dump into stainless steel troughs. Pumps move the whisky into tanks on the fourth floor. The barrels then move by conveyor to yard storage from where they go to a used cooperage firm.

Bottles in corrugated cartons come in by truck. A homemade unloader runs the cartons from the truck to a conveyor that courses the length of the receiving dock. The unloader can be fastened anywhere on the dock conveyor for exact spotting at the truck trailer.

The storeroom for empty bottles is on the fifth floor. When they're needed, they go on live roller conveyors to the third floor bottling lines. A worker at a fourth floor control console directs the routes of different sizes and types of bottles. He directs storeroom workers



JET OF AIR cleans each bottle at first machine. Next step is the automatic filling machine.



TWO MEN return filled bottles to cartons (rear). Then cartons go through automatic sealer, after which John Martin fixes label on each.



FILLED CARTONS from four bottling lines converge for trip to floor below and then to shipping or storage, all by conveyor. Lines take 120 bottles a minute. Twenty cases are on the line at one time.

at Brown-Forman

through a public address system.

From bottling, conveyors carry filled bottles through the second floor to shipping or storage. At the bottling building they can load three rail cars at once.

At the main warehouse, a separate building, a shipping clerk controls placement of cartons from a small room high over the floor. He works from his desk map of the warehouse. From this building they can load six rail cars and eight trucks at once. Brown-Forman is building an under-the-street conveyor from the main warehouse to another warehouse. There they'll handle three rail cars and five trucks.

Bottling Engineer Lee Russell says it's ideal to ship directly from production as they do with about 40 percent of output. But the remainder must be stored. Brown-Forman stores whisky wherever there's immediate warehouse space. They find this more efficient than designating areas and then picking from stock. That's because of the diverse products, different bottle sizes, different state tax stamps on the bottles, and so on. ♦



MAIN WAREHOUSE takes products as they're produced instead of designating specific areas. An assistant shipping clerk controls inventory on warehouse layout sheet on his desk. The warehouse is divided into 60 sections. Except for the Christmas rush, nearly all bottling is to order.

Some handling ideas at International Harvester

PROBABLY THE MOST widely diversified plant in the Louisville area is International Harvester's Louisville works. It has complete forging, casting, and sheet metal operations. It uses pig iron, scrap, billet stock, bars, and flat stock to make several tractor models and to supply other plants with automotive parts.

This takes diverse material handling, from the roughest to the very finest. And they use nearly every type of handling equipment.

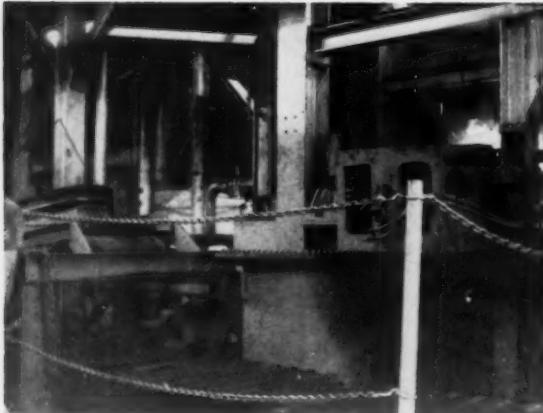
A good system is the handling of barrel cores,



80-lb pieces from which they cast part of a 6-cylinder gasoline engine. They blow sand into a permanent mold. A device places the mold on a conveyor for a trip through a sealer bath and then through bake ovens at 475° F. Next comes a cooling chamber and delivery to the molding line where it's assembled with other core molds to make a complete engine block.

The system eliminates nearly all damage to the core molds, produces a more uniform product. It's fast and continuous. Barrel core making was largely manual. ♦

Flops, turns corners all in one

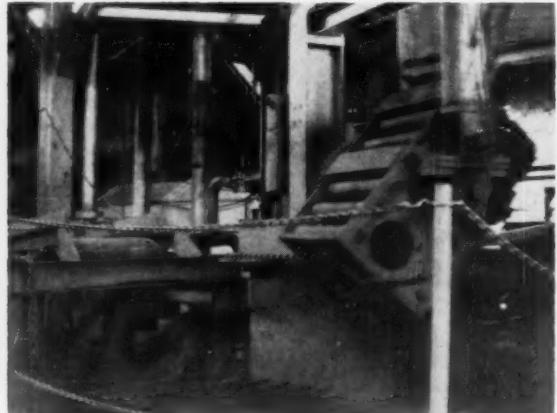


WITH THIS FOUNDRY INSTALLATION, Louisville works engineers neatly solved a pesky handling problem.

1—Flask gets sand from station

on right. Then flask moves into the box.

2—Box begins its swing, starts to turn over and move around the corner. Boom above and gear teeth

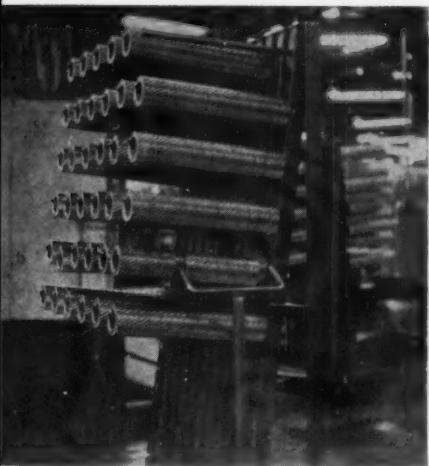


behind keep box moving smoothly, gently, quickly.

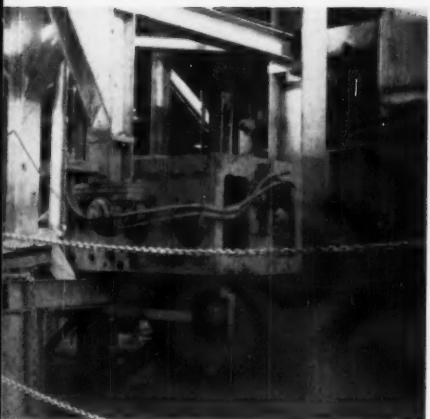
3—Box delivers flask which slides out on roller conveyor. Boom and box then reverse motion to pick up

ERVICE PARTS are shipped in corrugated boxes, even complete engines. The only wood in this package is the skid under the 600-lb engine. Reinforced corrugated builds up the ends. Staples hold the cover on. These stack four high.

HIS RACK sees small parts through a variety of processes undamaged. It holds gears or shafts from the first machining through wash, inspection, and assembly. This rack of gears is about to go by conveyor through the wash.



motion



the next flask.

The flask glides down the conveyor to the next station where a top flask goes on to complete the mold for pouring. ♦



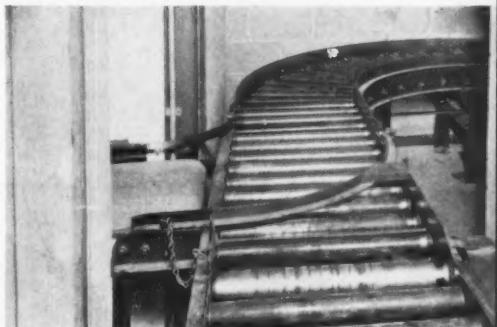
Slick auto loading at the supermarket



EVER SLIP a disc carrying groceries from the supermarket to your car? You can't at Winn Dixie Supermarket. They put your packages on a conveyor in the main store. You get a number, same as the one on your basket of groceries.



THE BASKET takes your groceries down this roller conveyor to a belt conveyor that runs at right angles.



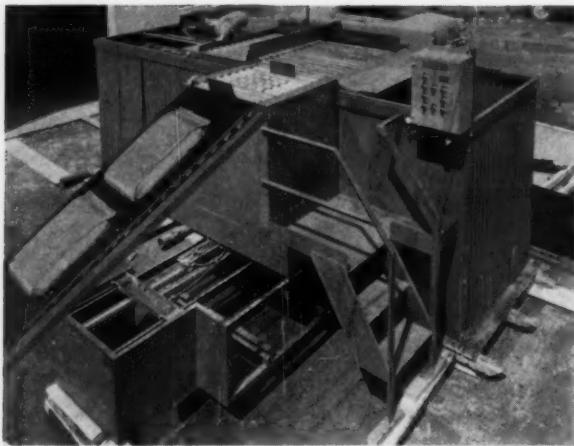
HERE COMES your order along a tunnel. It's beneath the drive between the main buildings and a separate small building.



YOUR ORDER arrives in the separate building where an attendant carries it a few feet to your car. You've driven the car from the parking lot to this building. This system avoids auto jams in front of the main market.



Run bags into palletizer



... to get this



SWITCHING
controls (top)
work the bag pal-
letizer. Control
box includes a
counter and man-
ual override for
maintenance.
Roller conveyor
(right) stops
long enough to
take palletized
load, then starts
again. Work done
by palletizer used
to take six men
on three shifts.

A SPECIAL PALLETIZER makes an 8-layer stack, five bags to a layer, at DuPont. Each bag is filled with Neoprene chips, weighs 50 lb. The palletized load is 1 ton.

A box of eighty 1/10-inch-thick fiberboard pallets fits into the palletizer. Vacuum cups position them automatically.

Bags run up a conveyor to the first roll table which either sends them on or turns them. The next table arranges the bags and places them on the elevator which holds the pallet. When a layer is complete, the elevator drops just enough to accept the next layer. After the eighth layer, a ram pushes the pallet on a conveyor. At the same time, another pallet moves into position. The elevator rises, ready to take the bottom layer of a new stack.

This machine takes 10 bags a minute. The developer has models which handle up to 35 bags a minute. ♦

Technical Data from Miller Engineering Co.

Three

THEY'VE MADE THE MOST of their handling opportunities at Standard Gravure, which puts out Sunday newspaper supplement magazines distributed in 44 cities each week.

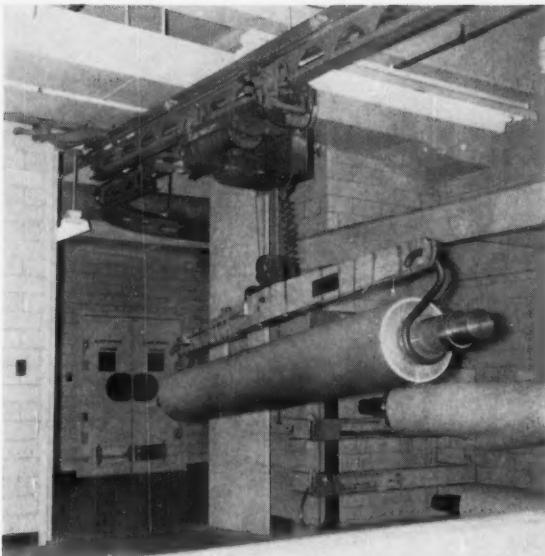
Handling 1½-ton rolls from the receiving dock is entirely automatic. The rolls move from truck to conveyor to an elevator. Down they go to the basement, either to storage or directly to a press.

From the presses, rubber fingers carry the printed magazines up a 28-ft twist conveyor. The rubber fingers reduce damage. The magazines slide out on the top floor where workers square the stacks, send them on conveyors to a tying station. The stacks then go on skids, which workers move by hand truck to shipping or storage.

The spectacular handling is in the cylinder room where they prepare cylinders for printing and reprocess old ones. The 3,000-lb copper-coated engraved rolls must be handled more gently than soap bubbles. The slightest scratch will show.

Assistant Production Manager James Anderson devised three overhead cranes to carry the cylinders. The flow pattern keeps new cylinders separate from the old ones at all stages. ♦

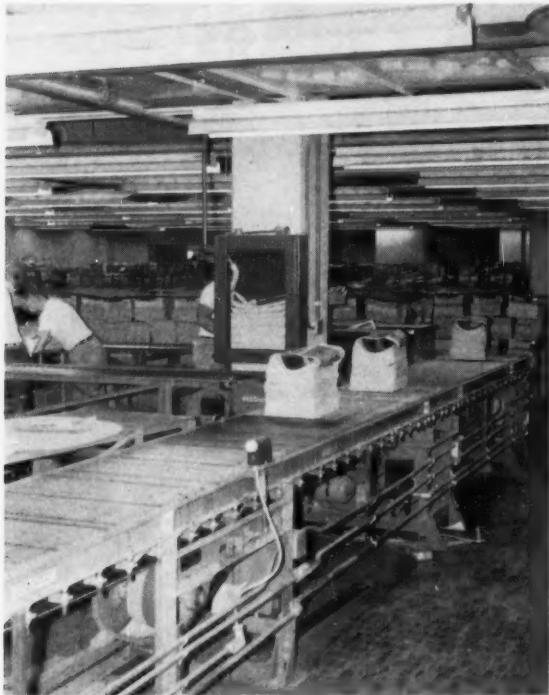
systems keep presses rolling



DIRECTION CHANGE is ingenious. When the top beam comes to the end of the bridge, it butts against another rail. The hoist then can move the cylinder through the door, at right angles to previous direction.

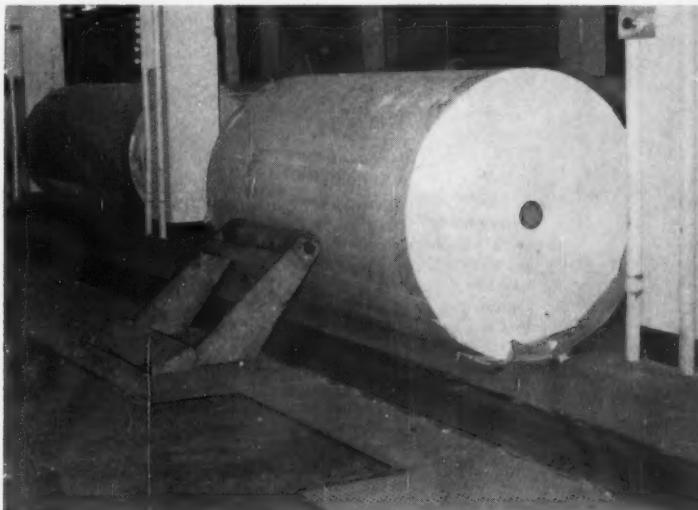


A CLOSER VIEW of the racks shows how they're used. Extensions at the front of each horizontal bar are moved out easily by hand. The hoist eases the cylinder on two extensions. The cylinder then rolls onto the rack and the extensions are shoved back. At the right rear are cylinder hand trucks.



IT TAKES extremely smooth movement to carry untied stacks of magazines on a conveyor. The electric eyes keep stacks on the feeder lines from colliding.

Photo by Kilroy Co.



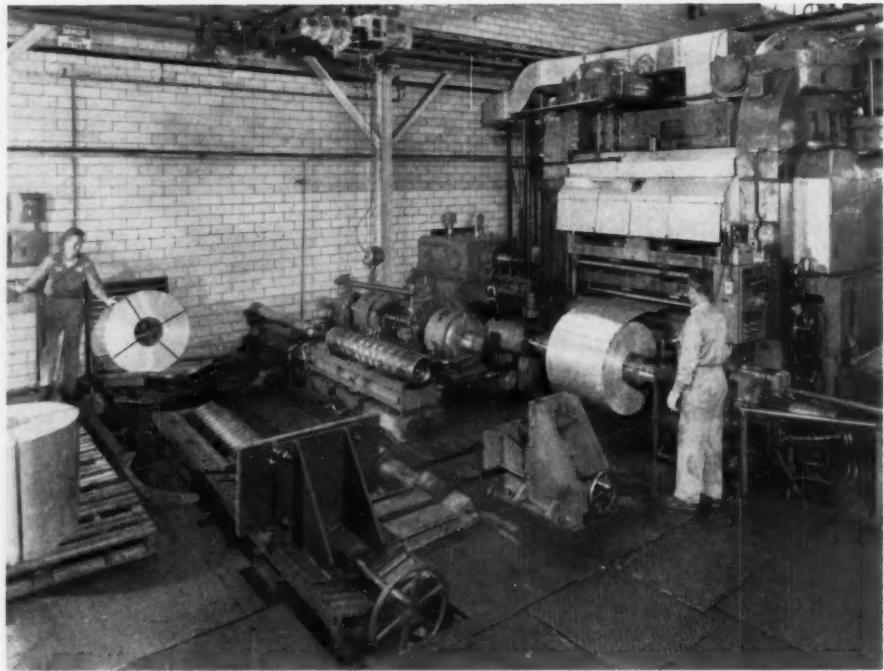
WHEN ROLL of newsprint reaches station, a roller glides out of its recess in the floor, pushes the roll off the conveyor. It rolls to the press, ready to go on the arbor. Each line has its own control buttons.

Photo by Logan Co.



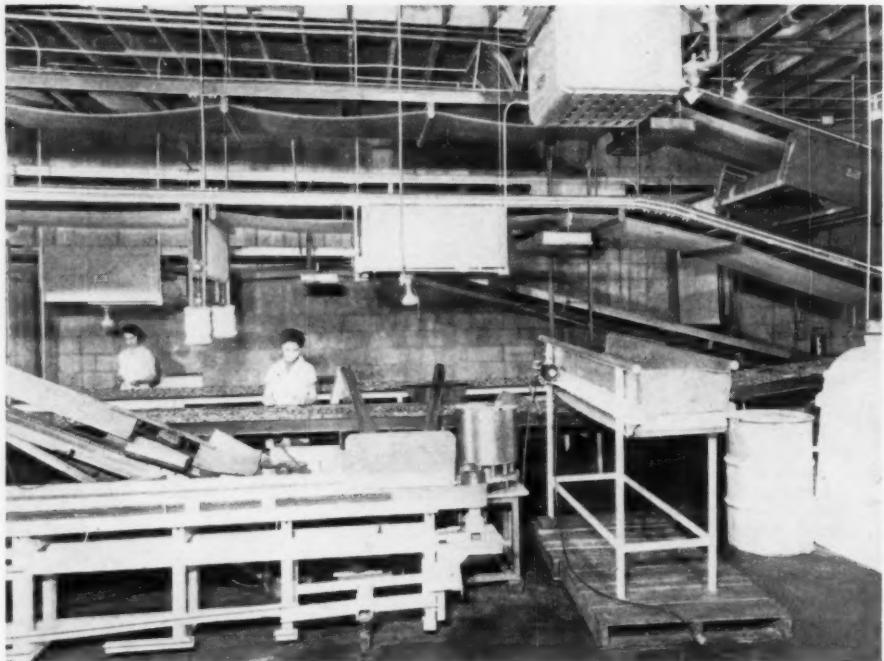
Difficult coils moved easily

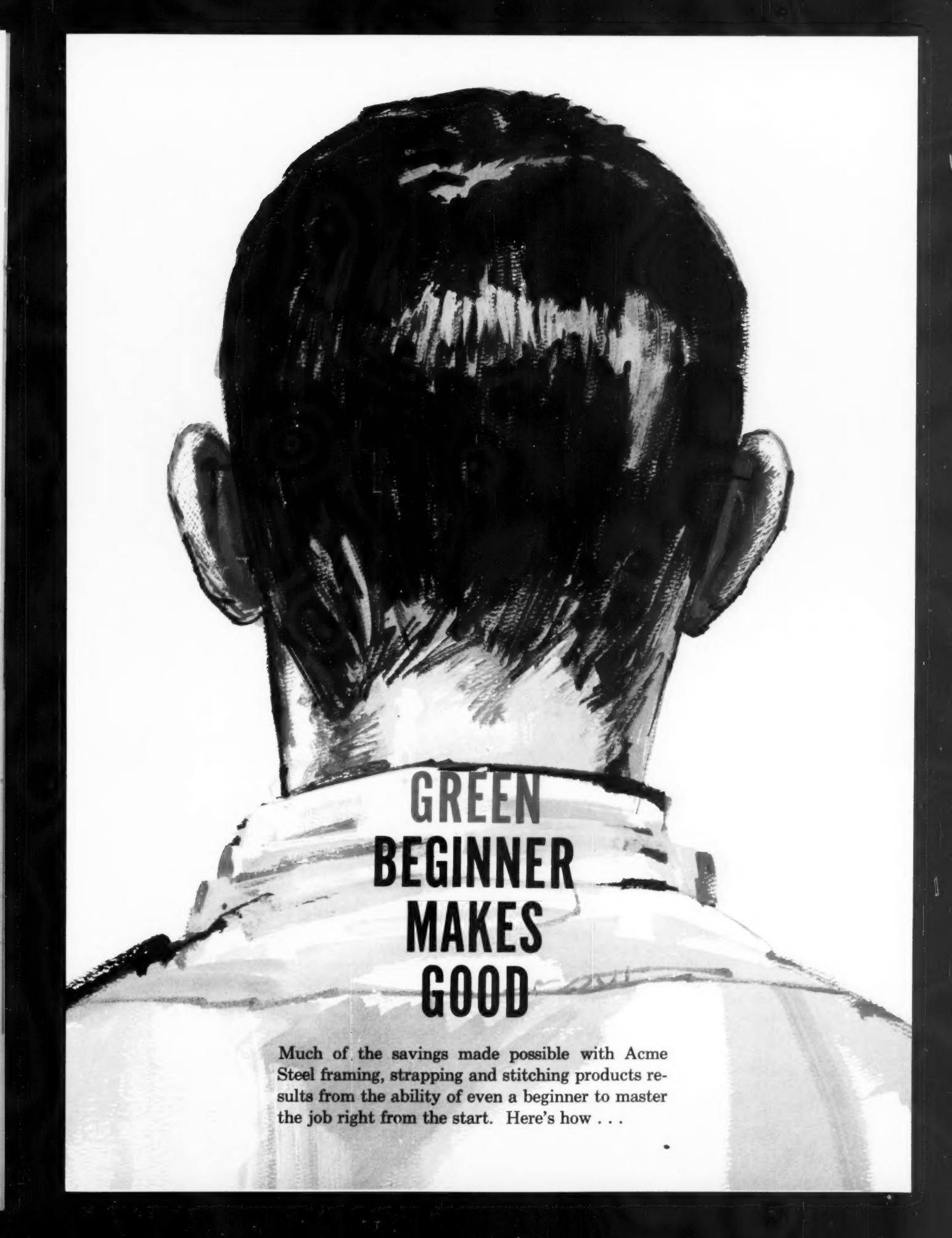
AUTOMATIC LOADING is sure and safe at the Louisville Rolling Plant of Anaconda Aluminum Co. A grab lifts coils on the upender from pallets at the left. This lays the coils on their sides. They roll down the conveyor to the stop. A coil buggy moves the load to the next station where a mandrel goes into the core. The bridge crane hooks the mandrel, carries the coil to the machine.



Long ride cools hot cookies

A SLOW CONVEYOR cools off cookies sufficiently for packaging. Mother's Cookies Co. has about 200 ft of conveyor traveling at 10 to 12 fpm. Cookies come out of the oven on the conveyor which travels back and forth, past inspectors, to packaging. The cookies move from one overhead belt to another by slide transfer.





GREEN BEGINNER MAKES GOOD

Much of the savings made possible with Acme Steel framing, strapping and stitching products results from the ability of even a beginner to master the job right from the start. Here's how . . .



ERECTS racks and structures just using a wrench

The secret behind this fastening ease is not the man, it's the material—AIM Brand Slotted Angle. This all-purpose steel framing is simply snipped to size with a cutter and bolted together. Anyone can master it in minutes—over half the work is already done. No sawing, drilling or welding . . . no figuring and fussing to make pieces fit. AIM Brand's exclusive pattern of precision slots and holes aligns per-

fectly every time. You name it, AIM Brand will frame it—storage racks of all kinds, platforms, stairways and mountings . . . conveyors, cages, tables and carts . . . even packaging. AIM Brand Slotted Angle is available nationally. Ask your local distributor for full facts. And also get details on new AIM Brand Rack—the first and only heavy duty storage structure that refuses to be pulled, bulled or jarred apart!

**ACME
STEEL**

IDEA LEADER IN
FRAMING

AIM
BRAND



STRAPS containers as fast as production fills them

It's no trick for even inexperienced hands to keep pace with production right from the start—with Acme Steel strapping methods. They include industry's broadest and easiest to use line of automatic and manually operated steel strapping equipment to ease and speed closing, tying, unitizing, bundling, baling, bracing and reinforcing any size or shape package or product. Your local Acme Idea Man can be particu-

larly helpful in coordinating your packaging system with your production for smoother flow, greater volume. He works with firms in every type business. Have him show you actual case studies which illustrate in detail how major companies in your field use Acme Steel Strapping—not only to increase packaging productivity, but to achieve a new high in shipping security.

ACME STEEL COMPANY • 13515 Perry Avenue • Chicago 27, Illinois



IDEA LEADER IN
STRAPPING



FASTENS boxes or products at split-second speed

How come a beginner can achieve consistently high output in closing boxes or assembling products with Acme Steel Wire Stitching? Simple. Acme Steel Wire Stitching Machines do all the work—automatically measure exact amounts of wire from a continuous coil . . . cut it . . . form it into proper size staples . . . drive them quick as a wink. Thousands of units can be stitched without a pause for reloading.

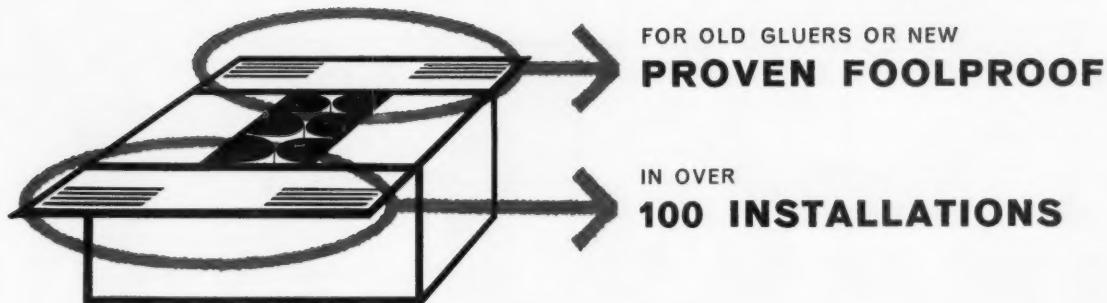
Full facts on the many money-saving advantages of this modern-day method are as close as your nearby Acme Idea Man. He will explain in detail how Acme Steel Wire Stitching can help you produce better packaging, better products, better literature binding faster at lower cost—with methods perfected and proved by the world's only manufacturer of complete lines of stitching machines and wire.

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IDEA LEADER IN
STITCHING

You are "buying right" when you upgrade your case gluing operations with the Glu-Line system. Over 100 installations confirm that this Standard-Knapp system puts glue on the case—not on your product. You gain in production hours, while you reduce maintenance and save glue.



A completely enclosed forced-feed system, the Glu-Line is available for old gluers or new. Gone are glue pots and rollers—and the need to clean them. The Glu-Line uses applicators that lay down the glue in neat, quick-gripping stripes. Your cases not only look better, the area around your gluer stays cleaner. And the machine with a Glu-Line is always ready to go. Just push a button.

Get all the facts on what the Glu-Line can do for your operations by contacting Emhart Manufacturing Company, Portland Division, Portland, Connecticut.

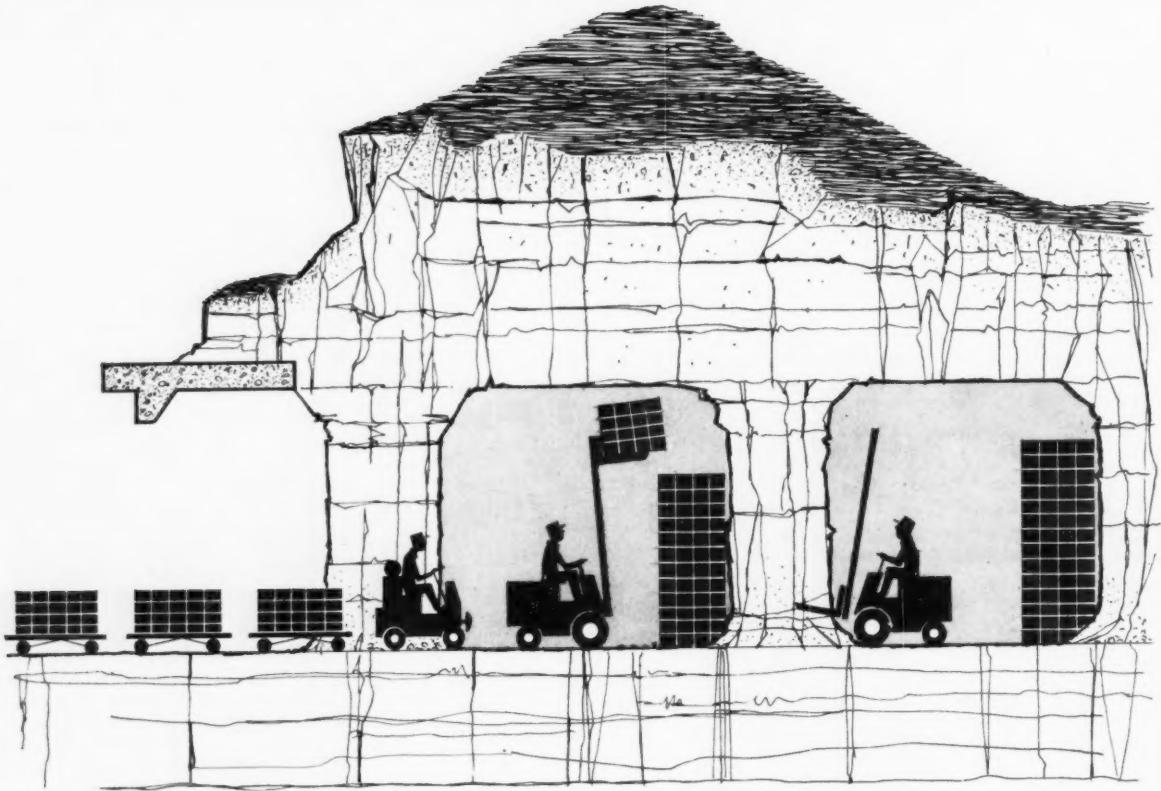
**STANDARD-KNAPP GLU-LINE IS THE APPROVED
FORCED-FEED GLUING SYSTEM THAT'S READY NOW**



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New breakthrough in UNDERGROUND WAREHOUSING

UNDERGROUND STORAGE is coming out into the open. It's still a hush-hush subject to the people who are doing it. But the information barrier is being lifted gradually, and outsiders can now get a peek at the material handling activities going on below the earth's surface.

Until recently, underground locations were used mostly to store important records and material stockpiles as a defense measure.

"We in Business and Defense Services Administration have been very much interested in underground storage systems," F. Steele Earnshaw, Confidential Assistant to the Administrator told MHE. "As a matter of fact, most of the information about locations and types of storage is important enough to be classified material."

Some of these installations have become common knowledge, however. Examples: machinery is mothballed in a mine in Kansas . . . bank records are kept safe underground in New Jersey . . . a Pittsburgh corporation's microfilm collection is stored thousands of feet below ground level. But these are dead storage items; they don't need a system for getting material in and out fast. The new trend is towards live storage.

Already Kerford Quarries Co. is operating a warehouse in a 2½ million sq. ft. limestone mine in Kansas. This is storage, but with a not-too-rapid turnover. It's not the last word, however; underground storage of high-turnover items is just around the corner.

Recently a prominent oil company disclosed to MHE that its engineers are studying the possibility

CHOOSE *Erickson* POWER LIFT TRUCKS

For Longer Life... Unexcelled Traction...

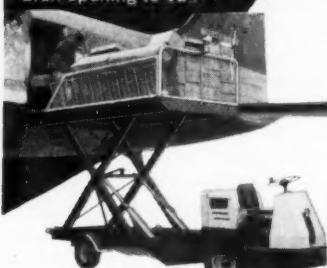
AR-TIC-U-LA-TED STEERING



FK SERIES—Pneumatic-tired fork trucks in capacities of 4,000, 5,000, 6,000 and 8,000 lbs. at 24" load centers. This series features rough ground operating characteristics; power steering is standard.

FW SERIES—Pneumatic-tired fork trucks in capacities of 2,000, 3,000, 4,000 and 6,000 lbs. at 24" load centers. Power steering is standard.

PK SERIES—The Power Kart is a straddle truck designed to end-straddle any load. 5 models to 30,000 lbs. capacity with hydraulically controlled, arch opening to 12'.



KART-ALL—Scissors lift model—Length, width and lift custom-built to specification.

Erickson power lift trucks are built rugged. The clean, simple lines follow the natural forms of functional parts. And the parts are known the world over for top performance. Continental engines. Borg & Beck clutches. Warner transmissions. Vickers hydraulic systems. A variety of fork styles, sideshifter, scoops and many other attachments are available.

All platform models feature Erickson's exclusive AR-TIC-U-LA-TED pivot which reduces turning radius to a minimum and has all the agility of 4-wheel steering. Eliminates fast-wearing conventional steering mechanisms. Choose Erickson and you invest in a paying proposition.

There is an Erickson Sales, Parts, Accessories and Service dealer near you. See Erickson list in this directory for name of your nearest contact on page E/60.

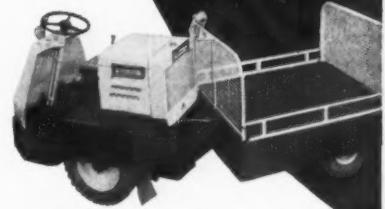


ERICKSON the Work-horse of the Lift Trucks



Above is a typical Erickson Low-Lift Platform Truck. Standard models up to 10,000 lbs. capacity. Custom models up to 20,000 lbs. capacity. Platforms custom built up to 6 ft. wide, up to 24 ft. long.

Erickson Hi-Lift Platform Trucks have various platform sizes and lifts available. Stand-up cockpit (as shown) or operator's seat. Standard automotive controls are a feature of all Erickson Platform Lift Trucks.

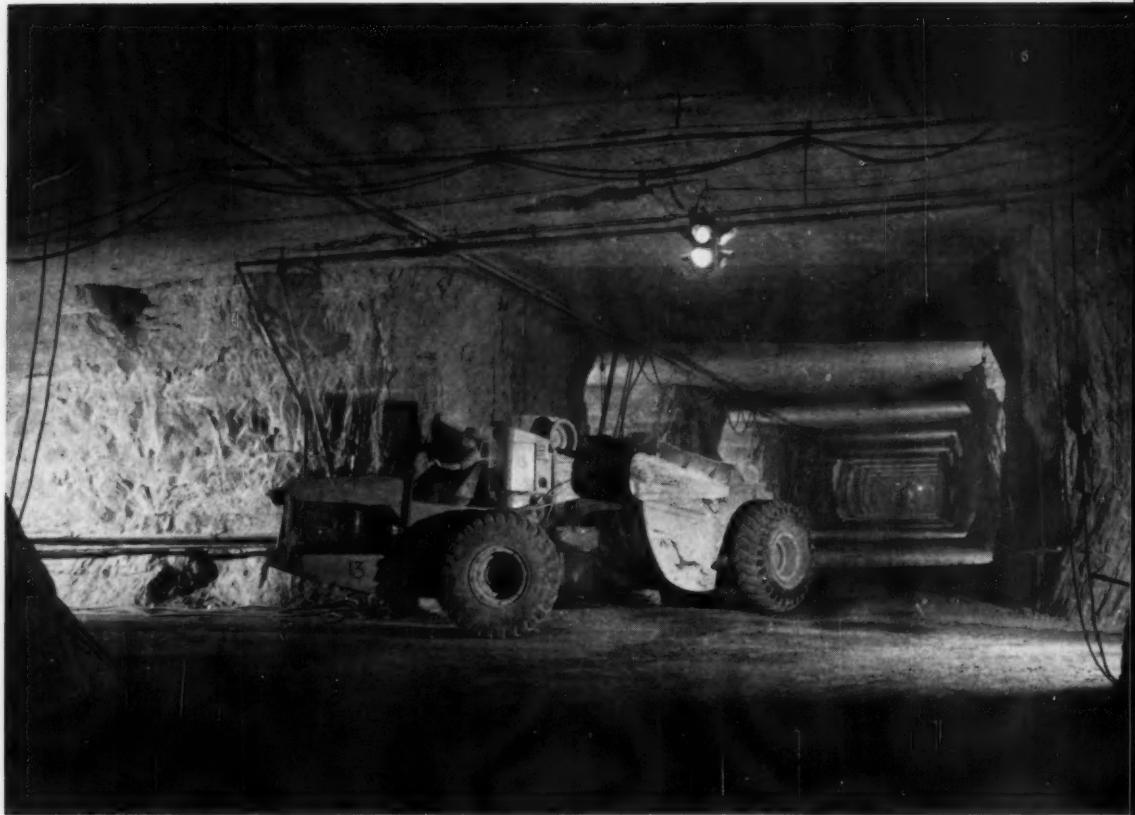


Erickson KART-ALL materiel-personnel carriers are available with scissors-lift platforms. Airline model shown above has standard baggage bed, 4,000 lbs. capacity. Custom models built with beds up to 8 ft. wide by 24 ft. long, up to 12,000 lbs. capacity. Hydraulic outriggers obtainable for stabilizing KART-ALL when loading or unloading heavy loads.

ERICKSON POWER LIFT TRUCKS, INC.

215 St. Anthony Blvd. N. E. Minneapolis 18, Minnesota

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of consolidating its packaged products warehouses into one underground location. Reason: to cut storage costs.

Why Go Underground

What advantages does underground storage have that lead to cost reduction?

You can buy abandoned limestone mine sites cheap. Or if you want to tailor the storage area to specific warehousing needs, you can mine the area and sell the limestone.

Underground storage gives you a stable temperature and natural insulation. Most limestone caverns have a temperature in the middle 50's and high humidity. By pumping the moisture out of the caverns (and even out of the surrounding ground), you can improve human comfort by manipulating temperature and humidity. After that it takes very little power to control moisture and temperature.

There are plenty of ifs to the advantages of underground storage. Right at the start you have to find a good mine location. It must be easily accessible to railroads and highways, and must be at a practical distribution point. If you're going to mine the site, you need a market nearby for the limestone. And the cost of test drilling for suitable mining sites will add to your initial expense.

If you're going to move material in and out of underground storage fast, you'll need horizontal rather

than vertical access. A horizontal mine entrance makes a number of handling systems practical: bringing highway trucks in on towlines, carrying goods on tractor-trains, etc.

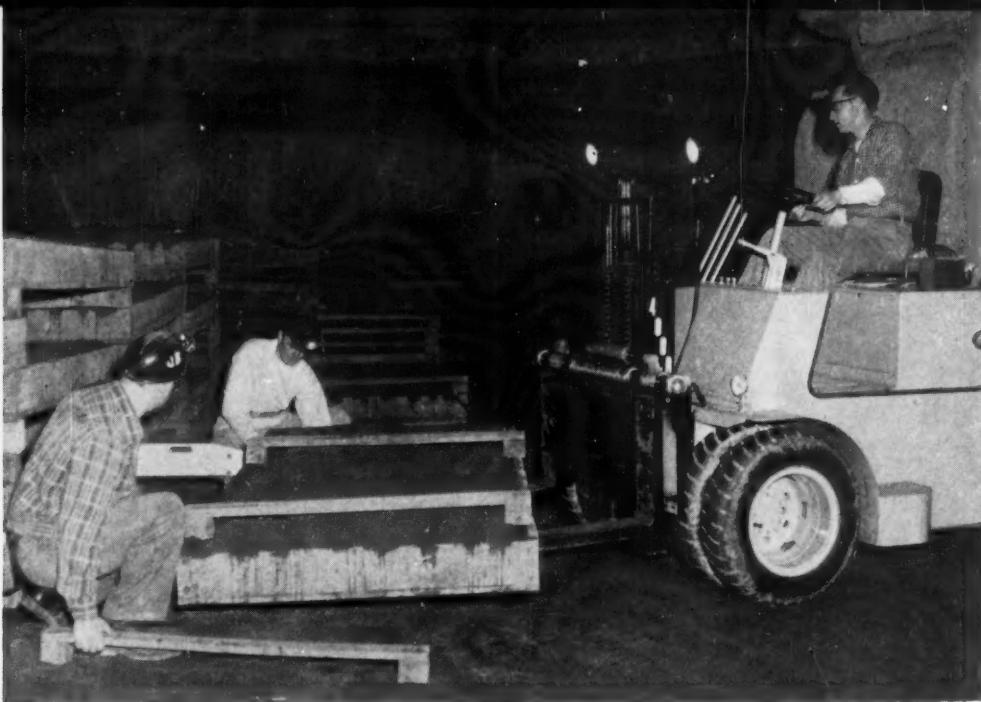
You have to guard against water seepage that could damage your products. In your first geological and topographical studies of mine locations, you should look for water, then decide whether you can seal it off from the mine or divert it out the entrance.

Difficulties of Underground Storage

Underground handling is a many-edged problem. If you use a location in a worked mine, the caverns may not be laid out for orderly stockpicking by tow-carts. If you use powered vehicles you must be careful not to introduce fumes into the precious underground air supply. Uneven floors and long slopes add to the tire and power problems of a truck. Underground storage people are using a variety of equipment: diesel powered trucks, gas trucks equipped with catalytic mufflers, new design electric trucks with pneumatic tires and big capacity, small size batteries.

Distance, too, means difficulties. Columns of limestone that support the mine must be much thicker than those supporting a warehouse roof. This means longer distances for order picking and higher operating costs. Rack installations must be suited to the uneven floors and walls.

With all these obstacles to be overcome, how can



THE HEIFRED CORP.

NEW EQUIPMENT is being designed for underground work. This 4000-lb pneumatic-tire, electric powered fork lift truck moves and stacks heavy trays of dirt in limestone caverns used by the Butler County Mushroom Farm, Inc. Truck has to work on rough surface, travel up and down an 18 percent grade.

A TYPICAL ARRANGEMENT of limestone tunnels, part of the Columbia-Southern Mine. This is the kind of installation now being considered for underground storage. Notice the thickness of the columns, which increases the distance to be traveled for order picking. Diesel powered loader is shown carrying a load of loose stone.

anyone figure to cut costs with an underground warehouse? By eliminating cost of buildings and, consequently, the additional cost of building maintenance. Another possibility of savings might come in lower taxes, although the field of underground warehousing has not yet been clearly defined in tax legislation.

Here are some of the important points in the oil company's proposal for underground warehousing.

The underground warehouse will store packaged products—cartons of oil, anti-freeze, etc. It will replace six above-the-ground warehouses.

Over a million pounds of packaged products will be shipped from the warehouse every day.

The warehouse will be located in the Ohio limestone formation, near the company's center of distribution. The limestone will be mined and sold.

A minimum 250,000 sq ft of warehouse space are needed. Cost studies indicate that a basic warehouse shell of this size could be developed underground at a cost of \$3 to \$4 a square foot less than the same amount of space above ground.

Whether or not the company goes ahead with this proposal, the field of underground warehousing is due for a breakthrough. A full-scale underground warehouse that proves itself financially successful will start other material handling men directing their attention away from the free air rights above them to the not-quite-so-free air rights below. ♦



SALT MINES fit into underground storage plans because of their unusual dryness. This Morton's Salt mine in Fairport Harbor, Ohio, has 25-ft-high caverns, maintains an 80-degree temperature. A diesel powered dumper is shown loading salt ore.

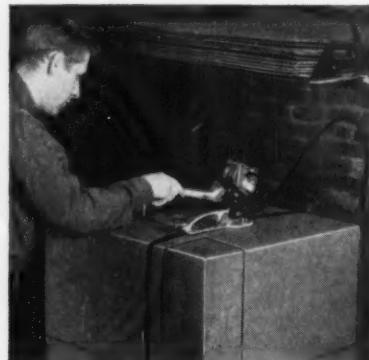
Seven SIGNODE ways to strap better for less ...at the speed you need



Basic two-piece tool set; easy to use. An inexpensive outfit, including seals, strapping, strap dispenser, stretcher and sealer, saves time and money in any shipping room.



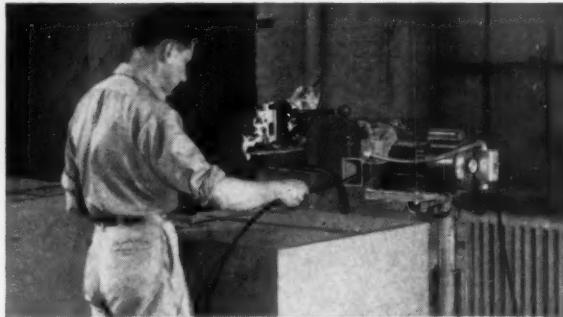
Model N air-power stretcher tightens strapping to preset tensions up to 1600 pounds. Model PN, not illustrated, straps bundles of round or irregular shape.



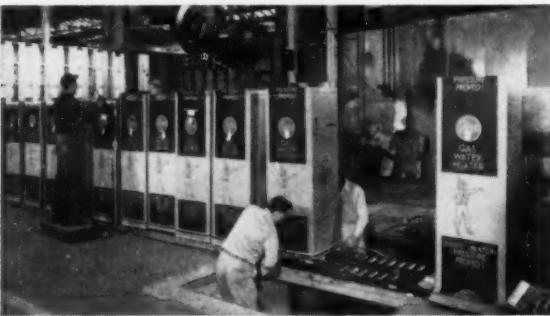
Signode's SFC—the only one-hand, one-piece strapping tool—shown here with Signode Adjusta-Pak three-way-telescoping corrugated container.



Model AP portable air-power strapping machine—a fast, dependable air-powered tool that tensions, seals, cuts off strap. Preset tensions up to 1600 lbs. Also electric—Model AE.



Model PSF, Power Strap Feeder—now one man straps big packages without a helper and without walking around the package. Inexpensive. Used with any Signode seal feed tool.



Conveyor strapping station holds interlocking container flanges, positions strapping, supports tools, saves time and labor. Handles large-volume flow of various size cartons.



Model M-2 power strapping machine automatically tensions, seals and cuts the strapping. Speeds and improves conveyor line strapping of all types of containers.

It will pay you to see the Signode man near you. He has strapping tools, machines, and accessories to meet your requirements, and can help you with time-saving, cost-cutting packing and strapping methods. For fast service, write, describing your needs to.

SIGNODE STEEL STRAPPING CO.

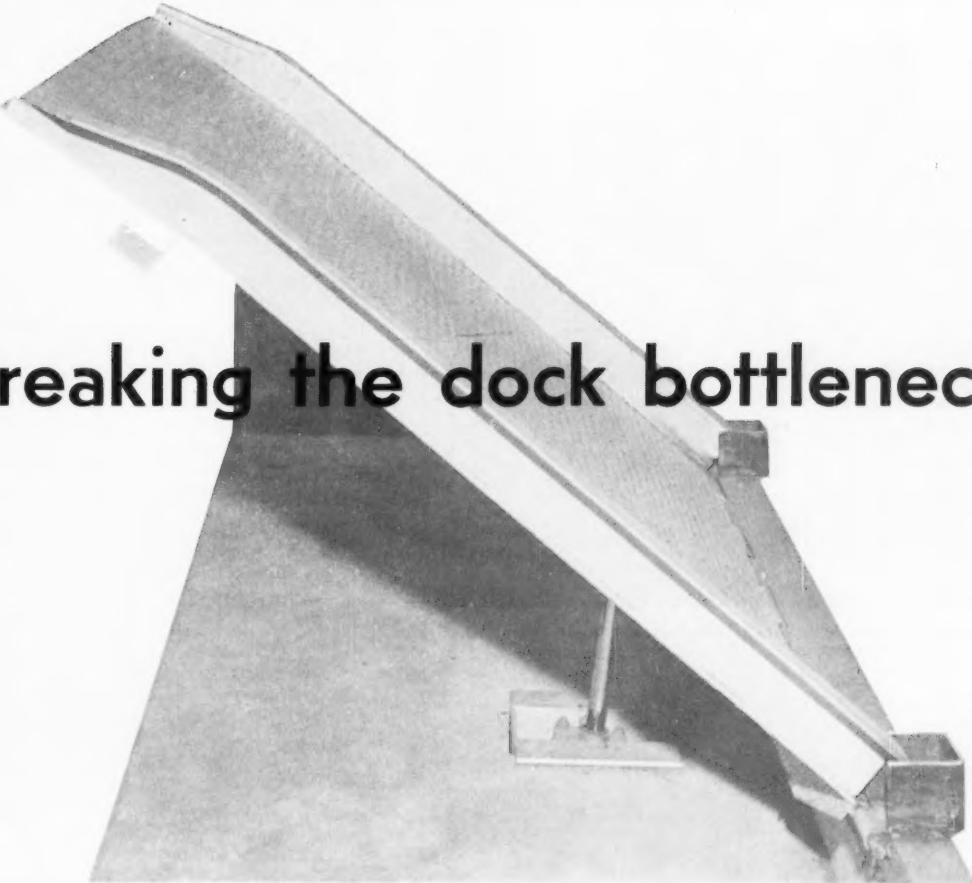
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First in steel strapping



Breaking the dock bottleneck

IT'S A COMMON STORY. Blank Corp. bought the best material handling system their engineers could design, planned to hustle materials through the plant at record speed and economy. And it worked too—until the loads got to the dock. Then the whole system fell flat on its face. Goods piled up and ruined all the careful planning, simply because the planners had paid no attention to the dock.

Sad part of the story is that it would have been so easy and inexpensive to carry that superb handling system out to the dock. Happy ending is that the company could—and did—correct the situation later without much difficulty.

Any dock is a potential bottleneck. At worst it may negate the advantages of an entire handling system—like Blank Corp. At best it is inoffensive but still a handling headache.

Danger spot at the dock is not really *on the dock* at all; it's where the dock ends—the gap between the dock and the vehicle you're loading or unloading.

Popular Cry: Standardize Docks

Though it would be an advantage to standardize dock heights, it is impossible to do. Trucks coming into average docks vary in height from 40" to 56". Even the same truck varies between loaded and empty height. So no dock can be the right height for all situations. For optimum height in most cases, however, architects recommend 52".

But even if your dock is the exact same height

as the vehicle you're loading, there is still the gap—however small—between dock and vehicle. It must be bridged before lift trucks can go in and out.

Simplest Way Is the Worst

The easiest way to bridge that gap is by throwing down a wood plank or steel plate to serve as sort of a gangplank. But watch out for it; you're inviting disaster. Gangplanks may have been alright 10 or 20 years ago, when loads were light and mostly handled manually or by 2-wheel hand truck. But today loads up to 4,000 lbs are common, and often they go much heavier. Makeshift methods are an invitation to disaster.

There are, however, some advantages to the gangplank idea. A simple board is inexpensive, easy to move around, and nothing can go wrong with it. Refine the gangplank to eliminate the dangers, and you have the manual dock-board, venerable workhorse of thousands of docks. There have been many improvements like curbs, treads, stops, and flares to make them more useful. And they come in steel as well as lighter metals like aluminum and magnesium. Though an offshoot of the highly undesirable gangplank, they are among the most useful of industry's tools for dock handling.

Dock Levelers Are Coming Fast

Growing in popularity are dock levelers fixed to the dock. In their simplest form, they're really like gangplanks attached to the dock. Recess a gangplank



AIR POWERED dockboard is easy to install in new or existing docks. This one is on cantilever dock.



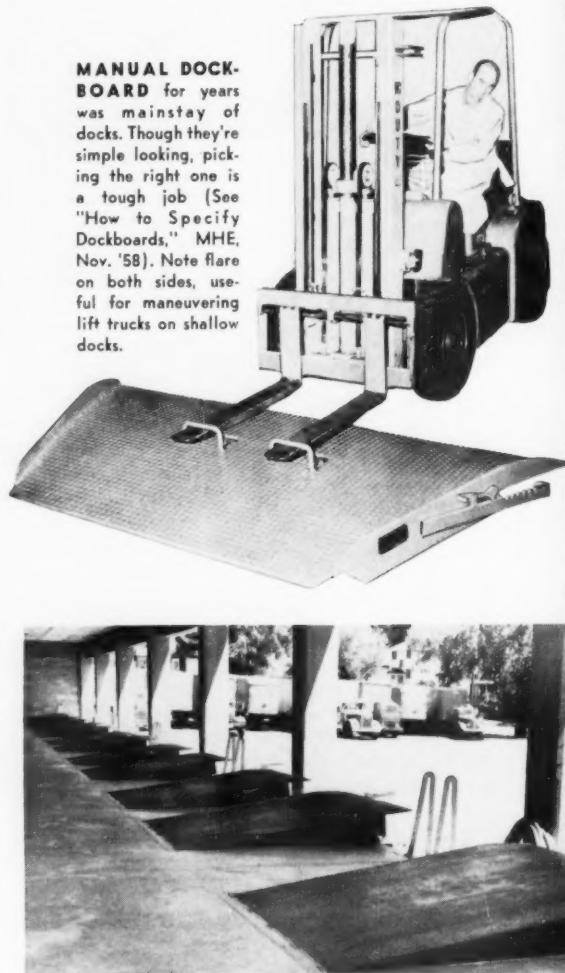
RETRACTABLE LIP adds to the versatility of this dock leveler. With lips of this kind on leveler, trucks can back all the way into dock even if attendant is off duty, and positioning of ramp is still possible later without moving truck.

into the deck and hinge it at the back so that its lip rests on the carrier bed. Change the simple plate to a treaded deck for greater safety, throw in some provision to raise and lower mechanically, and you have the basic dock leveler as it exists today. Of course, as with manual dockboards, there have been important refinements, variations to the basic theme.

Most dock levelers are built to 20,000 lbs capacity, lie flush with the dock when not in use, and have some provision that they won't topple downward if the truck should pull out from under them. Some have a movable lip, important for positioning dock levelers after the truck has already backed into the dock. Depending on the brand, there are many other features to fit particular needs.

**Goods pile up and ruin
careful planning simply because
the planners pay no attention
to the dock**

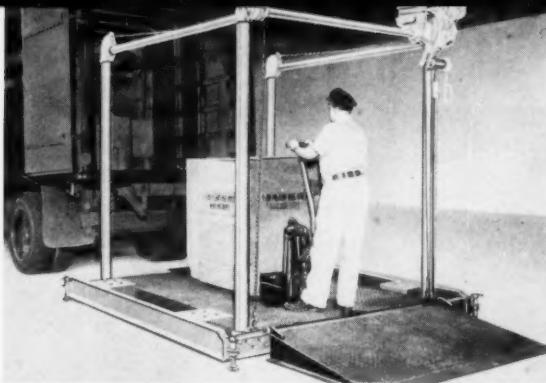
MANUAL DOCK-BOARD for years was mainstay of docks. Though they're simple looking, picking the right one is a tough job (See "How to Specify Dockboards," MHE, Nov. '58). Note flare on both sides, useful for maneuvering lift trucks on shallow docks.



Biggest difference between dock levelers is the way they're raised and lowered. There are three kinds: manual, truck actuated, and hydraulic. Manual ones usually have a lever at the dock. Truck actuated are raised and lowered by backward push of the truck as it backs against extending arms. Manual and truck actuated types both have counterweights or heavy springs to equalize the weight of the board, making up and down movement easier. Hydraulic ones use one or more hydraulic cylinders in the pit under the dock to raise and lower.

How Long Should They Be?

Manual dockboards and dock levelers both must be just the right length to be most useful. Biggest



FREIGHT ELEVATOR on pavement or in plant is alternative to loading dock. It elevates lift truck to carrier bed level, then back to ground level. This one can be moved around to various locations, is electric powered.



TRUCK LEVELER raises or lowers truck instead of dock. They're always hydraulic, used where there is too much difference between trucks and dock, as with small truck shown here. This company loads mostly semis, needs high dock for them, hence finds truck levelers most economical.

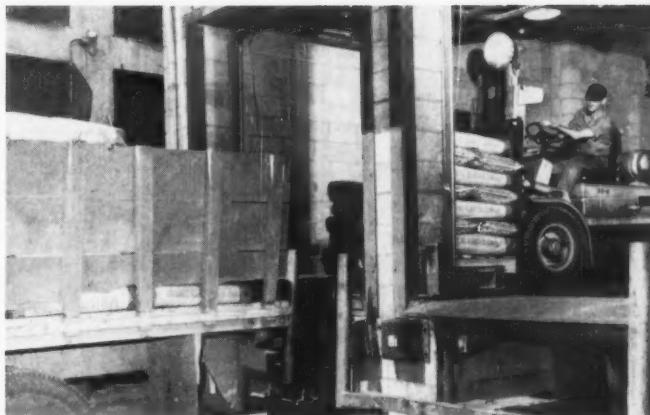
HYDRAULIC POWER raises and lowers this bank of dock levelers. These systems are usually oil-driven, but a few in old days were powered by water direct from mains. Sometimes they're air-driven.

MANUALLY OPERATED dock leveler is simple to install, use. Attendant raises it by pulling cable imbedded in well (arrow). It's spring-loaded to equalize weight. It can tilt sideways to conform to uneven truck beds, has folding lip that springs into place when board is raised.

factor to consider when figuring their length is the angle of incline. Any incline must be shallow enough that fully loaded lift trucks can negotiate it with ease. But there's another problem: underclearance. Steep inclines create a peak where low-clearance lift trucks may hang up. The ramp must be long enough to create a slight incline to avoid hanging up.

New: Truck Levelers

Still another way of equalizing dock and truck height is the truck leveler. Instead of raising or lowering the level of the dock surface, it does the opposite; it raises or lowers the truck to adjust the truckbed to the dock level. Truck levelers are almost



TRUCK ACTUATED leveler raises as truck backs against arms extending in front of dock, then drops gradually to truckbed level when truck has backed to proper position. Like most dock levelers, it has 20,000-lb roll-over and cross-over capacity, rests flush with dock floor when not in use.



always hydraulic, with a platform immediately in front of the dock, at pavement level. Rear wheels of the truck back onto the platform, which raises or lowers them to the right level.

Truck levelers are useful where sharp height differences would create steep angles with dock levelers—for example, where extremely high trucks are common at extremely low docks. They cost about \$3,000 more to buy and install than hydraulic dock levelers, \$4,000 more than truck-actuated or manual levelers.

For technical assistance in this article MHE thanks: *American Dockbridge, Inc.; Freightliner Corp.; Globe Hoist Co.; Hartman Metal Fabricators, Inc.; Kelley Co., Inc.; Modern Light Metals, Inc.; Roll-Rite Corp.; and Wayne Pump Co.*

1 LUMBER

Increasing business compelled the Burnett Lumber, Inc., of Crawfordsville, Ind. to squeeze larger inventories into a retail yard that couldn't be enlarged.

Solution? Many items formerly received, stored, and shipped by the piece are now received in unit loads and handled by a lift truck. These items include studs, insulation board, plaster board, plywood, roofing, and concrete blocks.

Result: the yard is doing about 2½ times the volume with 1/5 less handling cost. With lift truck handling, they can store larger inventories in existing areas, and provide better service to customers. They unload and store incoming shipments faster. Delivery trucks make more trips per day.

Truck is a 6,000-lb capacity, pneumatic-tire unit, with a LP-Gas fuel system and a side shift carriage. It has an end loader attachment which holds lumber by one end, stacks lumber in the conventional arrangement in sheds and yard. The end loader is quickly removed for conventional fork handling.

2 CLAY

First automatic palletizing system in the kaolin clay industry is now working at the Graniteville, S.C. plant of the J. M. Huber Corp.

The automatic palletizer and its system of conveyors takes 50-lb bags of clay as they come from the bagger and stacks them neatly in standard uniform pallet loads ready for shipment.

Pallets consist from 6 to 14 layers, five bags to the layer. Bags are placed in alternating patterns. One layer interlocks another. The palletizer uses electric eyes and counters to rotate and switch the bags in proper sequence.

A bag of clay leaves the bagging machine, travels along a conveyor to a set of scales where it is reweighed. It then crosses a turntable, synchronized to rotate the bags so the tops are positioned uniformly when stacked. From the turntable, the bag goes through a machine that applies adhesive to the bag to hold it in place on the pallet. It's then positioned in the 5-bag pattern on the pallet board on top of the palletizer.

When the 5-bag pattern is completed, the pallet board retracts, drops the layer on the pallet directly below. The next layer of five bags, in a different pattern, goes on top of the previous layer, and so on. After the pallet is loaded, it's conveyed to one side, ready for shipment.

3 POWDERS

Air Force Plant 74 in West Palm Beach County, Fla., is the world's largest producer of liquid hydrogen. It's used for rocket and missile fuel, and the plant makes it by the ton.

Air Products, Inc. designed, constructed, and operate the plant. It combines crude oil, air and water to generate hydrogen gas. Electrical energy is then used to refrigerate and liquefy the hydrogen.

A special pneumatic handling system serves at the very heart of the installation—the converter cold box. It holds the world's coldest fuel, at a temperature of -423°F .

This process depends on efficient refrigeration, and insulation is vital. Ordinarily, cold boxes are insulated with rock wool. But for this system, Air Products wanted



Hyster Co.

How they're handling . . .



Sandvik Steel, Inc.

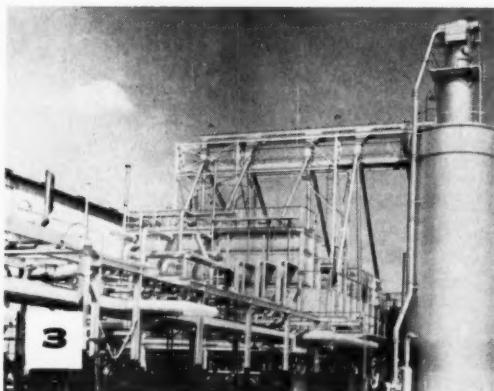
a material which could readily be removed to get at the process equipment if necessary.

Decision was for a low temperature powder insulation. It's pneumatically conveyed. It moves the insulation from cars to a storage silo. It also reclaims the powder from storage back to the conversion boxes.

Pipe necks are installed at the base of each converter



Lamson Corp.



Fuller Co.



Penco Div., Alan Wood Steel Co.

box. If the insulation material has to be suddenly removed, the covers of these necks can be quickly disconnected. Then, a 5-inch fan-type submergible nozzle is inserted. This nozzle connects to a stationary 6-inch duct which goes from beneath the boxes to the filter 100 feet above the ground on top of the storage silo. The filter is five feet in diameter, has four compartments.

4 SMALL PARTS

Centralized storage and electronic data processing are in full swing at the Sun Oil Company's Marcus Hook plant.

Until 1959, Sun's 10 warehouses for small parts and materials were decentralized. Four carried materials suited to the area. The others carried bulk storage, general refinery items, and standard materials needed to replenish the zone storehouses.

Since each of the four zone storehouses had the spare parts needed in its area, it was not uncommon to find the same standard pump parts, for example, on the shelves in all four inventories.

There was no program for interchanging spare parts. If a pump part was out of stock, the storehouse requisitioned stock from the company purchasing department, not from another storehouse.

Sun Oil started a study in 1956 to prove that decentralized warehousing was too costly to continue. In 1958 they began planning a central warehouse system.

A group of buildings, formerly a grease plant, was chosen. They installed new lighting, and studied shelving needs. Zone 4 storehouse had been equipped in 1952 with special heavy duty steel shelving. They held heavy loads such as machinery parts. This and other shelving from other storehouses all was moved to the new central warehouse.

A code number was given each of the 45,000 parts. Every inventory item is recorded on a punched card, along with the quantity on hand and the minimum amount required. When requisitions reduce the inventory to the minimum, the processing equipment automatically prepares a punched card requisition.

5 FOOD

Smooth, stainless steel belt conveyors carry cooked and uncooked potatoes through a freezing tunnel at the new frozen foods plant of Idaho Potato Processors, Burley, Idaho.

The belts lead to a better product. They require little maintenance. They're bands of 18-8 stainless steel, 32 inches wide by 0.032 inches thick, specially trued and flattened at the mill.

The process has three conveyors:

An 8-foot-wide conveyor for cooked french fries. It's comprised of three of the 32-inch-wide stainless steel belts running side by side, about $\frac{1}{8}$ inch apart.

A conveyor for raw french fries is made up of two steel belts and is 5' 4" wide.

A conveyor for potato patties is 32 inches wide and is mounted on the same frame as the belts for raw french fries. A divider separates them.

The three belts are of unequal lengths, and extend different distances into the processing room. The cooling and freezing tunnel is 130 feet long. The conveyors are 10 to 20 feet longer because the end pulleys are outside the tunnel. Freezing time is about 10 minutes. Tunnel capacity is 12,000 lb an hour. The plant usually runs three shifts.

The factory people say the potatoes do not stick to the belts. The potatoes just pop off without scraping as the endless belts bend round for their return trip. The smooth surface of the steel belt avoids marring the product with lattices or grids. The patties and french fries retain their original shapes. There are no openings in the belt for particles to fall through. The belts are easily washed down and cannot collect food particles in pores or meshes. ♦

Flexible handling fills orders



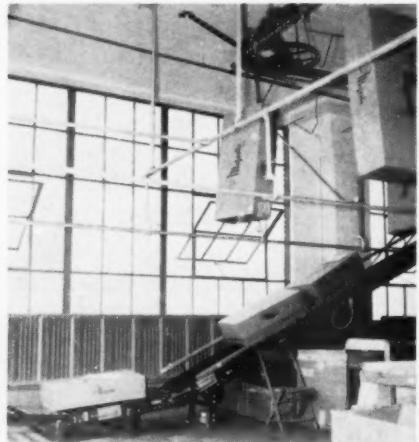
STOCK PICKER hangs garments on trolley-mounted bar which can be shunted off to rail in foreground.



HANGING GOODS is packed and put on conveyor. Mechanical diverter in foreground keeps boxes from colliding.



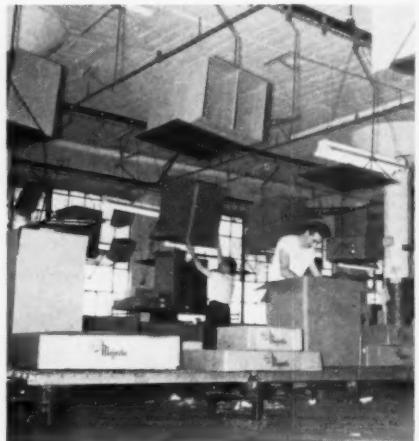
OVERHEAD LIVE STORAGE conveyor provides a selection of boxes for packer to choose. Hanging goods require careful folding and packing.



BELT CONVEYOR carries hanging goods to second floor for completion of orders and final packing. Workers communicate between floors by intercom.



LIVE STORAGE RACK has gravity wheel shelves to keep boxed goods within easy reach of stock picker on the second floor.



COMPLETED ORDERS are packed for shipment and quickly moved along wheel conveyor to weigh station. Orders are then palletized.

DID YOU EVER FEEL UNEASY about trying to match a sport coat and a pair of slacks?

Imagine how you'd feel if you had \$17 million worth of women's skirts, blouses, slacks, sweaters, jackets, and shorts—and you had to make them into ensembles to fill customers' orders.

That's what happens at the Cleveland distribution center of Majestic Specialties, Inc. Here they receive individual garments from contractors' plants and ship out ensembles to retailers. And since selling is seasonal, the orders have to be picked accurately and shipped in a hurry.

"Good material handling is the key to our business," says general manager Harold Greenwold. "We have a very flexible system here that ties in very well with the specialized kind of order filling we have to do."

In Majestic's two-story operation, hanging goods (skirts, jackets, slacks) and boxed goods (sweaters, shorts, blouses) are picked and matched to fill orders.

The center's first floor holds 250,000 units of hanging goods on three-tier pipe racks. Stock pickers, carrying photocopies of customers' orders, pick the garments and hang them on trolley-mounted bars that travel on rails running down the center of each aisle.

The stock pickers must make decisions on each order as to how many types (solids or patterns) and how many styles the customer should receive. This is why the handling system is geared to manual rather than automatic selection.

The stock picker finishes an order and moves the trolley to the end of the rack aisle, then switches it to a rail running at right angles to the racks. The rail carries the garments to a checking and packing station. The packers take empty boxes from an overhead live-storage conveyor, pack the order, and place the boxes on a gravity roller and wheel conveyor. At the end of this unit is a powered belt conveyor that takes the orders up to the second floor. This floor has a capacity of 450,000 boxed units.

Workers on the second floor segregate the cartons belonging to each customer's order and place them on an adjustable-shelf rack truck. They then take them to the racks containing the boxed goods needed to match the merchandise picked on the first floor.

Boxed goods are stored in live-storage racks. The racks have 6 shelves, 740 openings, and hold 50,000 units. The quantity of each style and type of garment in the racks is based on its sales popularity.

After the order picker has added the boxed goods specified on the order, he adds any low-popularity items called for. These are stored in metal racks.

The completed order goes to an analysis station where it is checked for proper coordination of styles and types and quantity of items. The checkers decide whether the order should be sent as is, or held until additional stock is available. Orders to be shipped are first moved through a billing area where clerks prepare invoices; then they go to final packaging.

Packers again select empty boxes from an overhead live-storage conveyor. Majestic has found that telescoping containers, wire-tied, are best suited to the size of most of the orders. Some of the bulkier orders, however, are packed in large corrugated cartons.

The cartons are conveyed to a scale for weighing, then stacked on pallets for shipment. ♦

NOW-A Hand Pallet Truck That's Truly **HAND OPERATED**



New
WRIGHT LIFT*
WITH THE
EXCLUSIVE
HLC (Hand Lowering Control)

*PAT. PENDING

"Two Feet on the Floor"
Operation at all times.

• **Faster, Easier Operation** — Operator does not have to stop, balance himself on one foot and lower or lift load with other foot. Load can be raised or lowered while truck is in motion. A simple squeeze of the exclusive HLC Hand Lowering Control lowers load easily, quickly! Lifting is done by pumping handle.

• **Load Protection** — A variable lowering rate (operator-controlled) allows gentle lowering of fragile loads and rapid lowering of other loads. HLC offers uniform control regardless of handle position.

• **Safe Operation** — Load may be lowered while unit is in motion to act as a brake, or dropped to avoid collision, "run-aways", or pinning operator.

OTHER FEATURES: Cast Pump — machined oil passages; overload, overflow valves; magnetic oil filter; honed cylinders; hard chrome-plated pistons. **Horizontal Pump Piston** — cannot trap air. **Articulated Steering Wheels, Rolled Steel Ramps, Pallet Entry and Exit Rollers, etc.**

The Wright Lift is available in 2,000 lbs., 4,000 lbs. and 6,000 lbs. capacities. For full information or the convincing proof of a Free Demonstration, write today.

WRIGHT-HIBBARD Industrial Truck Co.

DIVISION OF *Janard* INDUSTRIES, INC.

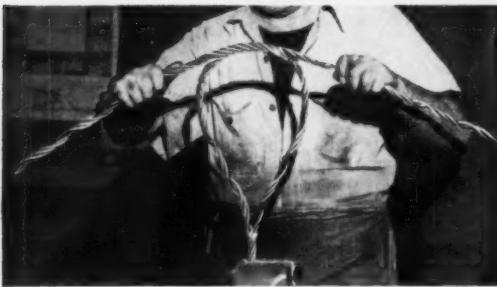
Hamburg, Pennsylvania

Circle 137 on Reader Service Card

1 Here, our splicer has separated the rope to desired loop size. (Note white mark on rope, above vise; and another above left hand.)



2 Now the sets of strands are being laid over each other to form loop — Three in one direction, the other three and I.W.R.C. in the other.



3 The loop — before the sleeve is in place or swaged — has a strength well in excess of the rated capacity of the sling, as an added "safety insurance."



4 All ends are tucked under the tapered steel sleeve, being driven into position here.



5 Up to 1500 tons of pressure are applied to the sleeve, permanently securing sleeve and strand ends, to complete operation.



now you can show your safety man why Roebling All-Purpose Slings are **TWICE** as safe

The first large measure of safety is in the rolled loop splice, the second safety measure is in the swaged steel sleeve. These great weight lifters go by the name of Roebling All-Purpose Slings or, if you prefer, "Safety Plus." They are made in a variety of diameters, lengths and types and all of them develop the *full catalog strength of the rope*. To really be on the safe side, why don't you ask us

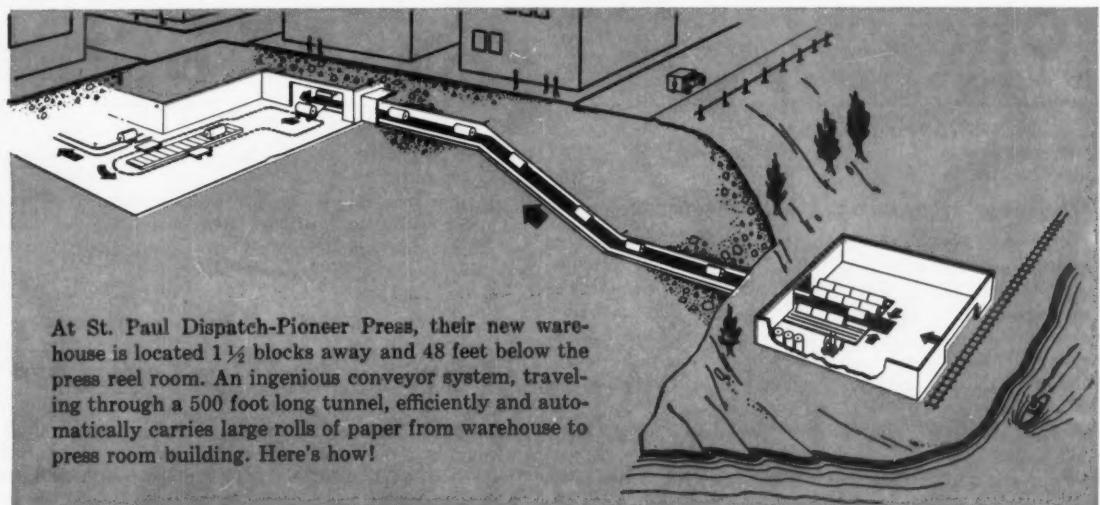
for our brochure on Roebling "Safety Plus" Slings? Just say, "A-944" and it shall be sent to you promptly.

You can get Roebling All-Purpose Slings — as well as Grommet, Cable Laid, Flatweave, 8-Part Braided and other special slings—from your nearby Roebling Distributor or Roebling's Wire Rope Division, Trenton 2, New Jersey.

ROEBLING 
Branch Offices in Principal Cities
John A. Roebling's Sons Division
The Colorado Fuel and Iron Corporation

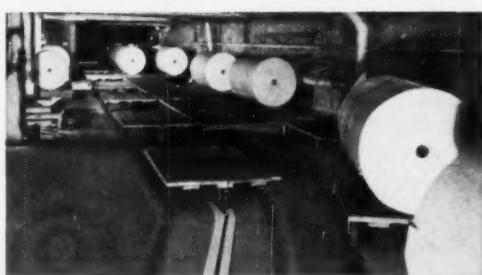
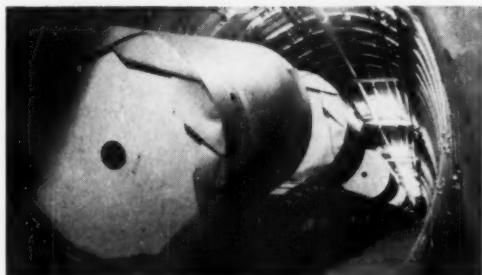
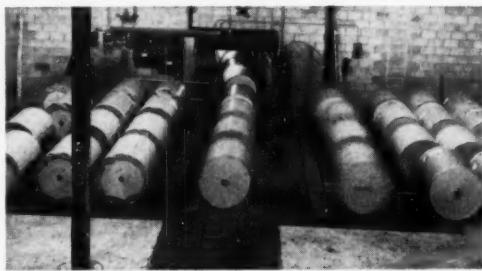
Circle 108 on Reader Service Card

This Webb automatic conveyor system hustles newsprint thru 500 foot tunnel



At St. Paul Dispatch-Pioneer Press, their new warehouse is located $1\frac{1}{2}$ blocks away and 48 feet below the press reel room. An ingenious conveyor system, traveling through a 500 foot long tunnel, efficiently and automatically carries large rolls of paper from warehouse to press room building. Here's how!

ROLLS REALLY KEEP ROLLING



1. At warehouse, the newsprint rolls (60" long x 36" in diameter and weighing 1500 lbs.) are removed from railroad cars by lift trucks and stacked for storage or placed on the tunnel conveyor for current use. Systematic loading of conveyor is accomplished by two sets of kicker plates which operate in series to propel four rolls at a time into spaced positions on the conveyor. Kicker plates are actuated by bumper switches and air pressure.

2. Tunnel conveyor is divided into four individually powered sections which can be operated "continuous-run" or separately for programming. The ascending section is built on a 15-degree incline and its slats are rubber coated to preclude slipping of load. A continuous live-supply of rolls (spaced 18 inches apart) is maintained by means of electric eye controls at beginning and end of each section.

3. When rolls reach the press room basement, they are automatically pushed off the tunnel conveyor and onto Towveyor trucks. Thirty-one of these trucks are attached to a moving chain loop in the floor to provide additional live-storage of rolls. In the reel room area, a semi-automatic "kick-off" pushes the rolls from the Towveyor trucks onto press room trucks as needed.

System capacity is 130 rolls, manual handling is eliminated, live and stationary storage is provided, and high efficiency is assured by the soundly engineered solution of this unusual material handling problem.

Circle 134 on Reader Service Card



JERVIS B. WEBB COMPANY
8935 ALPINE AVENUE • DETROIT 4, MICHIGAN
SPECIALISTS IN CUSTOM CONVEYOR SYSTEMS



BULLETINS CATALOGS FILMS

"Material Handling With Monorail"

A 21-page booklet that reviews the design, components, applications, and advantages of Monorail Track Systems and Monorail Crane Systems. It will give you a greater understanding of the versatility of monorail and the wide range of engineered equipment available. Book covers "What Monorail Will Do," "When And Where Monorail Is Used," "Monorail Track System Components," "Monorail Track Systems," "Monorail Crane System Components," "Typical Applications Of Monorail Cranes," and "Why Use Monorail?"

Monorail Manufacturers Association

Circle 400 on Reader Service Card

Turn-Around Time Cut 40%

Job Study 158 shows Towlmotor fork lift trucks at work in the auto industry. At Packard's Engine Plant in Utica, Mich., the lift trucks with notched forks carry full loads in and out of carriers.

Towlmotor Corp.

Circle 401 on Reader Service Card



"Conveying Systems"

Bulletin M-260, 16-pages, illustrates and explains efficiency gains possible with Day low density or high density conveying systems. Typical arrangements are shown as well as several installation photos.

The Day Co.

Circle 402 on Reader Service Card

Scale Checks Material on the Spot

Bulletin 15E details the Model S Dillon crane scale. With this unit, loads are checked on the spot the instant they're lifted. They can be moved directly to production line or stock racks. Weighing and handling are both done

in one time-saving operation. Literature gives specifications, shows applications, price schedule, and charts the scale's principle of operation. Lifting hook and attachment eye specifications are also given.

W. C. Dillon & Co., Inc.

Circle 403 on Reader Service Card

Containers Streamline Casting Handling

Mead Data Sheet No. 26 tells how a casting manufacturer improved handling and shipping of their castings, and developed better customer service. Importance of a 36" x 36" x 24" corrugated pallet-container is stressed. Unloading time is reduced from 5 to 6 man-hours to about 15 minutes, housekeeping is greatly improved, and product identification is bettered. The old storage method and the new storage method are both pictured.

Mead Containers

Div. of The Mead Corp.

Circle 404 on Reader Service Card

Plywood Handling Film

Black and white, 9-minute sound film "A New Approach" tells how a lift truck enables a plywood manufacturer to better utilize storage space and increase handling efficiency 25%. A Hyster SpaceSaver 70 lift truck (7,000 lbs capacity on cushion tires) does this for United States Plywood Company's Los Angeles branch. The truck is equipped with a side-shift attachment and power steering. Film is available for showing.

Hyster Co.

Circle 405 on Reader Service Card

Semibulk Handling Container

Folder describes Invert-A-Bin shipping and storage containers for handling flowable dry products. Available in 36, 65, and 88, cu ft sizes. Made of steel or aluminum. Seals hermetically to handle toxic and hygroscopic materials.

The Powell Pressed Steel Co.

Circle 406 on Reader Service Card

Battery Selection Chart for Electric Trucks

Eight-page brochure presents dimensions, ampere-hour capacities, weights, and other data for 16 battery types. It covers voltage ratings from 12 to 36 volts, and ampere-hours per positive plate from 40 to 95. Dimensions for batteries in combinations of 6-cells to 18-cells are given. Recommended lay-out specifications for 6-cell, 12-volt; 9-cell, 18-volt; and 12-cell, 24-volt batteries in steel trays

Continued on page 89

READER SERVICE CARD — MATERIAL HANDLING ENGINEERING

MATERIAL HANDLING ENGINEERING

November 1960.

Circle item numbers for additional information about
products described and advertised in this issue.

ADVERTISERS

1	13	25	37	49	61	73	85	97	109	121	133	145	157	169	181	193	205	217	229
2	14	26	38	50	62	74	86	98	110	122	134	146	158	170	182	194	206	218	230
3	15	27	39	51	63	75	87	99	111	123	135	147	159	171	183	195	207	219	231
4	16	28	40	52	64	76	88	100	112	124	136	148	160	172	184	196	208	220	232
5	17	29	41	53	65	77	89	101	113	125	137	149	161	173	185	197	209	221	233
6	18	30	42	54	66	78	90	102	114	126	138	150	162	174	186	198	210	222	234
7	19	31	43	55	67	79	91	103	115	127	139	151	163	175	187	199	211	223	235
8	20	32	44	56	68	80	92	104	116	128	140	152	164	176	188	200	212	224	236
9	21	33	45	57	69	81	93	105	117	129	141	153	165	177	189	201	213	225	237
10	22	34	46	58	70	82	94	106	118	130	142	154	166	178	190	202	214	226	238
11	23	35	47	59	71	83	95	107	119	131	143	155	167	179	191	203	215	227	239
12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216	228	240

Card Invalid Without Company Name — Type or Print

NAME _____

TITLE _____

COMPANY _____

KIND OF BUSINESS _____

ADDRESS _____

CITY _____ ZONE _____

STATE _____

DO NOT USE THIS CARD AFTER Feb. 15, 1961

NEW EQUIPMENT

300	309	318	327	336	345	354	363	372
301	310	319	328	337	346	355	364	373
302	311	320	329	338	347	356	365	374
303	312	321	330	339	348	357	366	375
304	313	322	331	340	349	358	367	376
305	314	323	332	341	350	359	368	377
306	315	324	333	342	351	360	369	378
307	316	325	334	343	352	361	370	379
308	317	326	335	344	353	362	371	380

USEFUL LITERATURE

400	409	418	427	436	445	454	463	472	481	490
401	410	419	428	437	446	455	464	473	482	491
402	411	420	429	438	447	456	465	474	483	492
403	412	421	430	439	448	457	466	475	484	493
404	413	422	431	440	449	458	467	476	485	494
405	414	423	432	441	450	459	468	477	486	495
406	415	424	433	442	451	460	469	478	487	496
407	416	425	434	443	452	461	470	479	488	497
408	417	426	435	444	453	462	471	480	489	498

MATERIAL HANDLING ENGINEERING

November 1960. I

ADVERTISERS

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7	19	31	43	55	67	79	91	103	115	127	139	151	163	175	187	199	211	223	235
8	20	32	44	56	68	80	92	104	116	128	140	152	164	176	188	200	212	224	236
9	21	33	45	57	69	81	93	105	117	129	141	153	165	177	189	201	213	225	237
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11	23	35	47	59	71	83	95	107	119	131	143	155	167	179	191	203	215	227	239
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MATERIAL HANDLING ENGINEERING

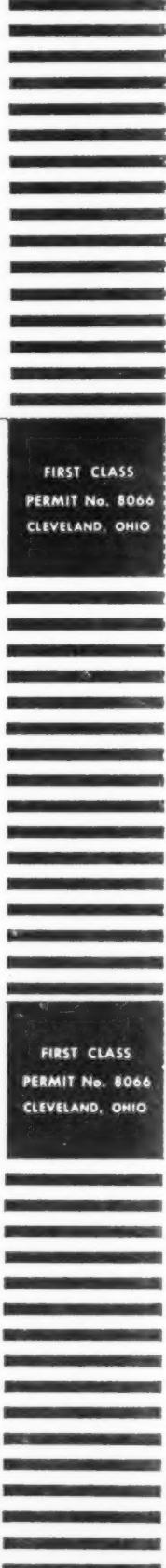
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8	20	32	44	56	68	80	92	104	116	128	140	152	164	176	188	200	212	224	236
9	21	33	45	57	69	81	93	105</											

READER SERVICE CARD - MATERIAL HANDLING ENGINEERING

FIRST CLASS
PERMIT No. 8066
CLEVELAND, OHIO



BUSINESS REPLY MAIL

NO POSTAGE STAMP NECESSARY IF MAILED IN UNITED STATES

POSTAGE WILL BE PAID BY:

MATERIAL HANDLING ENGINEERING

812 Huron Road
Cleveland 15, Ohio

FIRST CLASS
PERMIT No. 8066
CLEVELAND, OHIO

BUSINESS REPLY MAIL

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BULLETINS CATALOGS FILMS

are listed. Gives selection data on 7 types of terminal connectors, along with 8 terminal connector lay-outs.

Gould-National Batteries, Inc.

Circle 407 on Reader Service Card

Personnel Transporter

Electric-powered Cushman 734 Truckster is described in 2-page bulletin. They developed the 734 for transporting personnel. Even with 5 people in the carrier, there is still a 45 x 41 inch flatbed with stake rack for carrying luggage or other equipment. Has new seats, is ideal for inplant transportation. Highly maneuverable, needs only a 50-inch passageway, and runs up to 50 miles without a recharge.

Cushman Motor Works, Inc.

Circle 408 on Reader Service Card

Medium Duty Casters

Series 16 casters are recommended for medium duty on waste disposal trucks, floor trucks, and bakery equipment. They're also well suited for use on warehouse trucks, dollies, and light-to-medium duty conveyorized drag-line trucks. Literature gives full specifications. Top plate and yoke base are cold-forged from $\frac{1}{4}$ " steel plate. Company says this increases the density of the material at points of greatest stress.

Albion Industries, Inc.

Circle 409 on Reader Service Card

Store More In Less Space

Bulletin SB-1 illustrates and describes various applications of stacker cranes in the warehousing of steel bar stock, dies, rolls of cellophane and aluminum foil, drums, and pallets. Quoted as advantages are 50% increased storage capacity, 57% reduction in building costs, and 60% savings in handling. The 12-page bulletin gives complete data on the stacker crane, explains how it makes narrow aisles possible.

The American MonoRail Co.

Circle 410 on Reader Service Card

Safe Transit Test

Dropping, shaking, and jolting tests are important parts of Gaylord's effort to make their shipping containers effective and economical. Four-page brochure tells about National Safe Transit Committee's tests and how they are applied to corrugated shipping containers.

Gaylord Container Div., Crown Zellerbach Corp.

Circle 411 on Reader Service Card

Pallets and Their Uses

Handy digest size booklet describes pallets and their uses. Titled "A B C of Pallet Handling", it illustrates different types of pallets and explains their uses. Advantages of wood and of metal pallets are listed. Pallet specifications are explained. The 15-page booklet also describes how to estimate pallet requirements by three methods: floor-area, weight, and unit. It advises that pallet require-

ments be worked out by all three methods for comparison and check. Instructions for loading pallets are given, and standard loading patterns are shown. Ten suggestions are given for safe pallet operation. A final section details pallet handling in narrow aisles, and shows company trucks that do the job.

The Raymond Corp.

Circle 412 on Reader Service Card

First-in First-out Movement

Photographs, drawings, and diagrams explain the principles, operation, and installations of Rapistan Flow Rack for live storage in an 8-page bulletin. Discusses new snap-on, quick change fittings. Maker says that its system of material storage avoids needless multiple handling and wasted aisle space.

The Rapids-Standard Co., Inc.

Circle 413 on Reader Service Card

Lift Truck for Stevedoring

Bulletin SS-1836 gives specifications for the Utilitrac 8024. This 8,000-lb. capacity gas-powered fork truck is built for stevedoring. Comes with cushion tires, power steering, and Clark's Hydratork drive. To ease lifting in and out of ship's holds, the counterweight is quickly demountable. Sling eyes are provided on the counterweight, frame, and uprights. Bulletin contains a capacity chart, upright dimension table, and drawbar pull chart. Drawings show turning radius and all dimensions.

Clark Equipment Co.

Circle 414 on Reader Service Card

Seals Cases Any Size

Brochure 100-60 describes the Packomatic Omnimatic-Rotopress. It automatically feeds, glues, and seals cases of widely varying dimensions. It takes them at random, and automatically discharges them to as many as five different take-away conveyors.

J. L. Ferguson Co.

Circle 415 on Reader Service Card

Less Tiring . . . More Production

Company says that those benefits will be yours if you use its air power tensioners and sealers. Folder described eight tensioners, adjustable to supply uniformly the exact strap tension desired from 750 to 3,300 lb. (at 90 psi). Seven-pistol grip and double handle sealers are also described. Illustrated stories show the tools in use. Specification charts and descriptions help the packager and shipper select the ideal combination of air-power tools.

Signode Steel Strapping Co.

Circle 416 on Reader Service Card

Powered Strapping Tools

Bulletin AD-300, 16 pages, covers powered steel strapping tools which make the application of strapping easier, faster, and more uniform. Illustrations show how powered tools increase packaging speed, reduce operator fatigue, and produce more secure packages. Specifications for the applications of all powered stretchers as well as powered and manual sealers are included. Power strap feed assemblies and accessory items such as tool mounts are also discussed.

Acme Steel Co.

Circle 417 on Reader Service Card

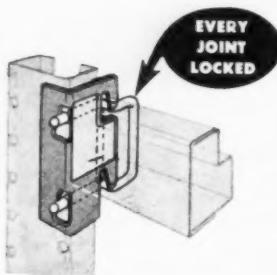
Continued on page 90

HEADQUARTERS for Material Storage Racks



**Assemble without tools
No cutting • No bolting • No welding**

SPEEDRACK is factory engineered and pre-fabricated, with interchangeable Upright Trusses and Load Beams . . . instantly adjustable to meet changing inventory requirements.



THREE Ways to Make Money with **SPEEDRACK**®

Warehouse Capacity is multiplied with pallets stored four or more tiers high on **SPEEDRACK**.
Solid Storage with "Drive-In" **SPEEDRACK**. No space wasted by cross aisles.
Accessibility of all pallets reduces cost of stock movements.

Write for NEW Catalog

**STORAGE
PRODUCTS
CORPORATION**
4410 Oakton Street
Skokie, Illinois

speedrack® SAVES SPACE

Circle 119 on Reader Service Card

90

BULLETINS CATALOGS FILMS

"Leasing Releases Working Capital"

Title of a brochure that gives you some of the pros and cons of leasing versus ownership. It explains the Acme Leasing plan. This method lets you acquire the use of almost all types of equipment, machinery, and facilities, without the necessity of using present or new capital. Through this arrangement, you make payments from current earnings, you pay as you grow.

Acme Associates, Inc.

Circle 418 on Reader Service Card

Specification Sheet On Pressure Sensitive Tape

Two-page Tapebinder specification sheet No. 710-1300 outlines the applications of pressure sensitive tape. Contains a table of physical properties covering tensile strength, elongation, adhesion, and gauge. Hand and table model dispensers for handling tape up to three inches wide are illustrated and described.

A. J. Gerrard & Co.

Circle 419 on Reader Service Card

Ramp Reduces Loading Time 60%

The Extendo-Lip loading ramp is made of solid steel weldment of longitudinal, V-shaped girders. They're reinforced with lateral V-shaped gussets. It's shipped ready to install. Unit does not overhang the dock. It eliminates the danger of a truck backing in and damaging the ramp or the truck itself. It's designed for existing docks and new construction. Can be used with overhead doors as well as standard types.

American Dockbridge, Inc.

Circle 420 on Reader Service Card

Custom-Made Bulk Containers

Company says you can cut your costs six ways with St. Regis Bulkpaks. The Bulkpaks are always sized, shaped, and tailored to suit specific plant operations and specific products. As a result, they cost less to buy, assemble, pack, ship, store, and handle. A St. Regis packaging engineer is at your service. He will work with you to develop the Bulkpak that's exactly right for you. Literature gives full details, and shows how the Bulkpaks stack tight and high . . . how they are easily emptied . . . and how easy they are to set up.

St. Regis Paper Co.

Circle 421 on Reader Service Card

Parcels By Pushbutton

Specialized conveyor systems are the prime movers in new automatic sorting machines that speed parcel sorting and mail handling in U.S. post offices. A 4-page booklet describes the new equipment. Manual handling has virtually been eliminated. Two postal employees now can operate one of the automatic sorters. Conveyors will also speed the multiple handling of letter-type mail in streamlined post offices now under construction. Mail can be

Continued on page 92

ALLIS-CHALMERS LIFT TRUCKS

keep *Moving* and *Paying* at Vendo



Vendo is one of the world's largest producers of vending machines. Obviously, many of its products are pressed into service without ever leaving the plant. The Allis-Chalmers lift truck is one of 14 in use at this plant.



Operator John Cromer reports, "I like the way an Allis-Chalmers lift truck performs. I like the transmission. I like the way it handles. I just like the whole machine!"

Four years ago, The Vendo Company put an Allis-Chalmers lift truck to work in its Kansas City, Missouri, plant — and discovered there is a dollar-saving difference in lift trucks. As Clyde Hickman, material handling foreman, said then, "A lift truck has to keep moving or you lose money, and ours keep moving."



Clyde Hickman, material handling foreman, says, "these A-C trucks keep moving."

When reminded of this statement recently, Hickman answered, "What I said then still goes — only more so. We now own 12 Allis-Chalmers trucks and operate two others on a rental basis. That original truck has close to 13,000 hours and hasn't needed an engine overhaul — neither has any of the others."

The man responsible for keeping this fleet on the move is Clyde Dent, mechanic. He takes this responsibility seriously. When a truck is pulled in off the job, it gets real "pit stop" service. Here Allis-Chalmers' easy accessibility really pays off. As Clyde described it, "When a lift truck comes in for minor service, we usually get it back on the job before the exhaust pipe cools off, and I've got burns on my arm to prove it!"



Clyde Dent, mechanic, says, "maintenance expenses are low."

Let your Allis-Chalmers dealer show you how these tough trucks will keep going, and paying, on *your* job. Ask for a demonstration. Allis-Chalmers, Milwaukee 1, Wisconsin.

BH-149

ALLIS-CHALMERS  **power for a growing world**

Circle 4 on Reader Service Card

November 1960

BULLETINS CATALOGS FILMS

conveyor-distributed to several hundred processing points in a post office at a rate of more than 42,000 letters an hour.

Jervis B. Webb Co.
Circle 422 on Reader Service Card

"The Profit Side Of Your Ledger"

Production and mechanical advantages of the Caterpillar D7, D6, and D4 tractors are discussed in this 8-page booklet D004. Owner testimonials show their cost-saving, profit-making potential. Also covered are easy operation, high production, and dependability. Mechanical features include new diesel engines, dry-type air cleaners, lifetime lubricated carriages, and Caterpillar's exclusive oil clutch.

Caterpillar Tractor Co.
Circle 423 on Reader Service Card

Power Lubrication For Mobile Crane

Power lubrication has replaced individual lubrication to 18 points on Drott's Go-Devil mobile crane. Within seconds, the entire base of the boom and the area under the deck are lubricated. A product bulletin explains how and where power lubrication takes care of the 2,000 lb lift mobile crane.

Drott Mfg. Corp.
Circle 424 on Reader Service Card

Electric Truck Advantages

Purpose of this 17-page booklet is to describe and illustrate the major features of the construction and operating characteristics of the battery-electric industrial truck. It stresses what users say about the advantages, with direct quotes.

Electric Industrial Truck and Allied Products Manufacturers

Circle 425 on Reader Service Card

Fibre Textile Receptacles

Bulletin describes Kennett vulcanized fibre receptacles for handling textiles. Roving cans, mill boxes, trays, trucks and Lestershire bobbins are included. Styles, properties, and benefits are described. The receptacles are made of vulcanized fibre, which, according to the company, spells long, rugged, cost-cutting service.

National Vulcanized Fibre Co.
Circle 426 on Reader Service Card

Powered Platform Trucks At Work

Plant conditions and operations where powered platform trucks can reduce costs are described in Bulletin F-10-2. Two general phases, material handling and maintenance and service work are described in detail. "Job Applications For The Prime-Mover Model F-10" details this low cost transporter.

The Prime-Mover Co.
Circle 427 on Reader Service Card

Live Storage Rack

Company says its Versarack saves time, effort, and space to provide neater, more efficient storage and faster order

Continued on page 94

"Bridge" the cost gap with a NEW EUCLID TROLLEY on your PRESENT CRANE BRIDGE!

If your present overhead crane facilities require attention, it may be wise to investigate the possibilities of a crane remodeling job with new Euclid trolleys; available in a range of designs and capacities.

We can specifically cite instances where this plan has been employed to the complete satisfaction of the crane owners.

This Heavy Duty Series "M" trolley incorporates a three reduction spur gear hoist. Recommended for use on cranes subjected to continuous operation in the handling of heavier loads.

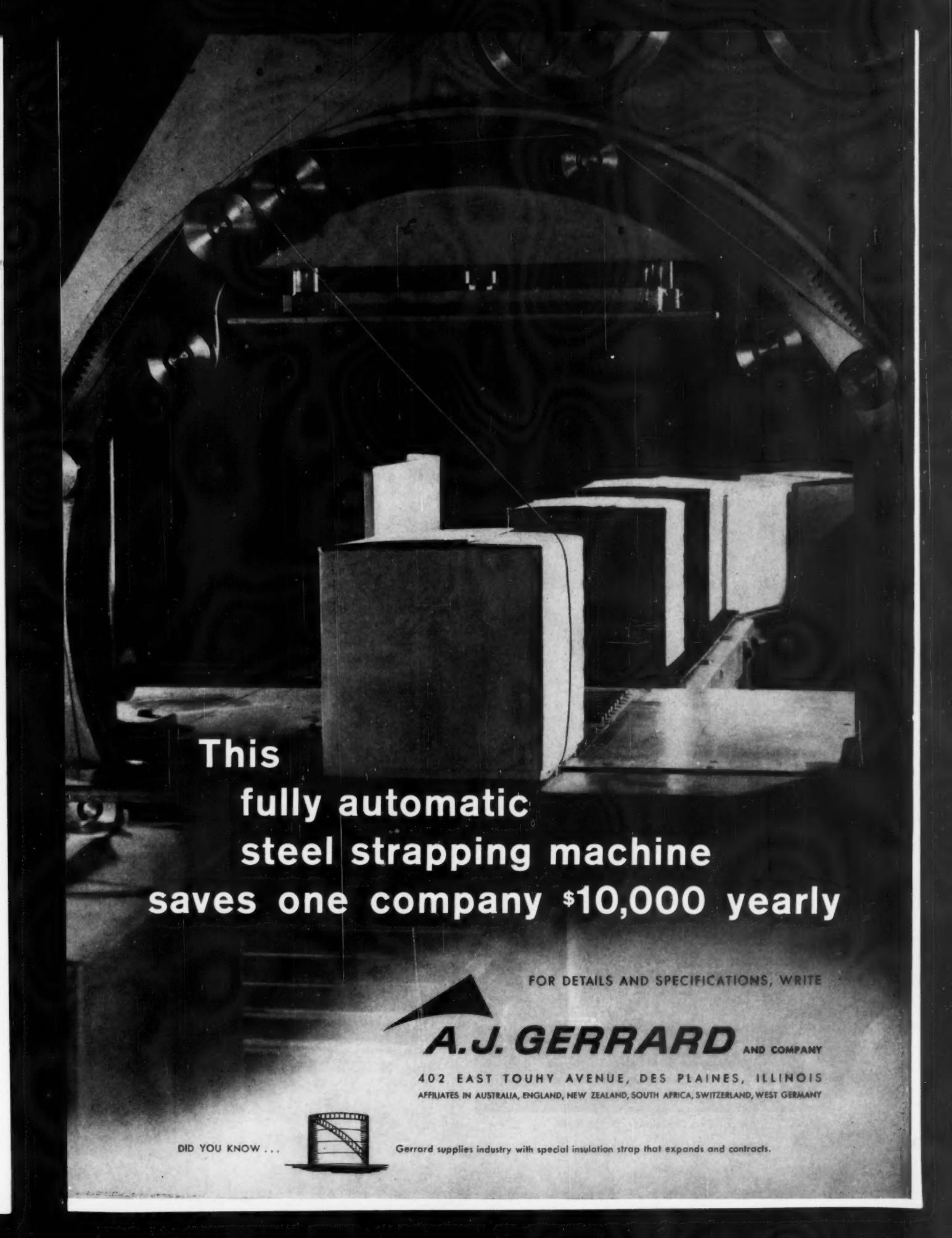
This submerged crane trolley is designed to meet the low headroom conditions which are more prevalent in existing low buildings today with the wide use of air conditioning in many industrial plants.

A Series "H" top running trolley with a worm gear drive used in double girder cranes in capacities of 3 to 15 tons.



THE EUCLID CRANE & HOIST CO. 1361 Chardon Rd. Cleveland 17, Ohio

Circle 53 on Reader Service Card



This
fully automatic
steel strapping machine
saves one company \$10,000 yearly

FOR DETAILS AND SPECIFICATIONS, WRITE



A.J. GERRARD

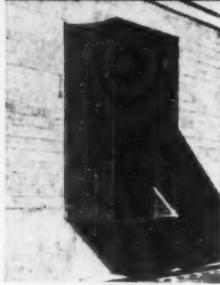
AND COMPANY

402 EAST TOUHY AVENUE, DES PLAINES, ILLINOIS
AFFILIATES IN AUSTRALIA, ENGLAND, NEW ZEALAND, SOUTH AFRICA, SWITZERLAND, WEST GERMANY

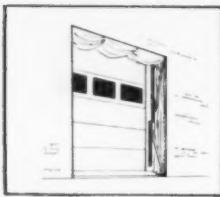
DID YOU KNOW ...



Gerrard supplies industry with special insulation strap that expands and contracts.



Rail-Dox completely recessed installations can be made if right-of-way clearance does not permit projection when folded.



Opened in seconds, Rail-Dox provides complete, all-weather protection between dock and car. When folded, it fits snugly against building with only 9 inches projecting.

Frommelt
INDUSTRIES, INC.
DUBUQUE • IOWA
The Name to Remember in Approved Protective Products!

FROMMELT

Circle 58 on Reader Service Card

94

BULLETINS CATALOGS FILMS

picking with fewer errors. Advantages include: easy inventory control, first-in, first-out storage, less floor congestion, product protection, up to 400% faster order filling.

M-H Standard Corp.

Circle 428 on Reader Service Card

How A Lift Truck Is Born

"First In Imagination . . . First With Reality" is the title of this brochure. It gives a complete description of Automatic's Design and Development Department, and tells how this department takes an original need for a new truck and develops it into a final product. A look at advanced changes that will take place in industrial trucks of tomorrow is also presented.

Automatic Transportation Co.

Circle 429 on Reader Service Card

High Lift With Low Headroom Clearance

Bulletin 2410A details the Yale Triplex mast. It's available for use with 2,000-3,000 lb capacity Yale Series GP-52 gasoline-powered, and K-46, K-47, and K-58 electric industrial lift trucks. Unit has extra-high lift, and is hydraulically operated. Various construction features, operating characteristics, and full specifications of the mast are included in the six-page bulletin. A comparison with a standard mast is included. The mast has been available for use with the G-52 gas truck series for a year, and is also in use on Yale's K-51 electric series, 3,000 to 5,000 lb capacity trucks.

The Yale & Towne Mfg. Co.

Circle 430 on Reader Service Card

4-Way Printer

Cuts your inventory of preprinted cartons. Belt speed is approximately 35 cartons a minute. Guide rails, turning device are designed to accommodate your full range of cartons. Gives product or code imprinting on 1, 2, 3, or 4 sides of your shipping cartons (top and bottom too) in one pass of the machine. All colors of ink available, holds sufficient ink for full day's run of up to 10,000 cartons.

Algene Marketing Equipment Co.

Circle 431 on Reader Service Card

Compact Power Package

Bulletin 99A, 12-pages, covers the company's complete line of power units for material handling vehicles. Featured are detailed illustrations, complete product information, and specifications for Ready-Power gasoline, diesel, and LP-Gas power units.

The Ready-Power Co.

Circle 432 on Reader Service Card

Paper Handling Conveyor System

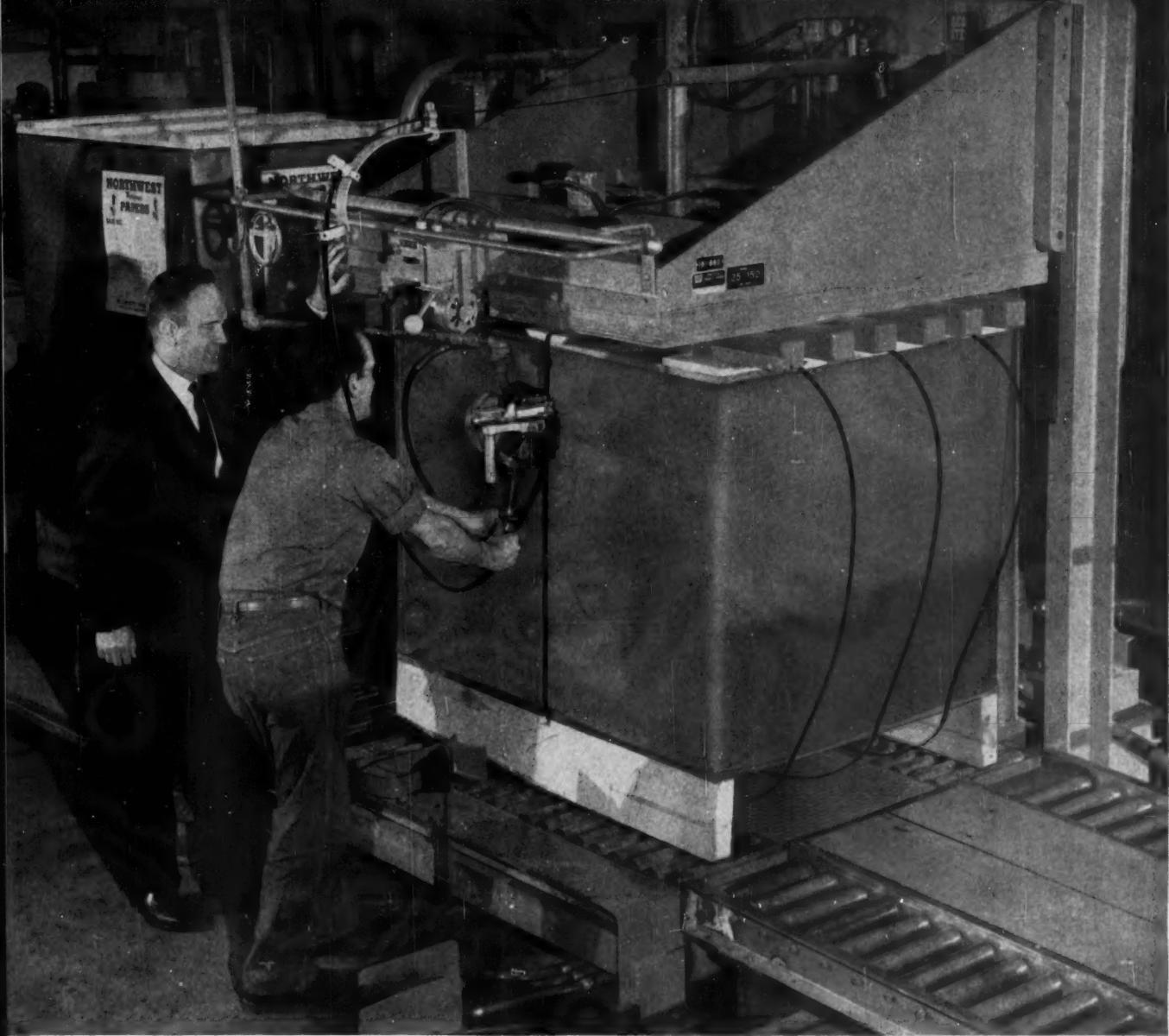
System carries a continuous flow of orders, office forms, punched cards, correspondence, blueprints and other light-weight materials from an unlimited number of loading positions to any selected drop-off point.

Chainveyor Corp.

Circle 433 on Reader Service Card

MATERIAL HANDLING ENGINEERING

WHAT'S SO "NEW" ABOUT COMPRESSION STRAPPING?



Acme Idea Man J. P. Kelly (left) views Idea No. S3-63, which he helped develop, at The Northwest Paper Company, Cloquet, Minn.

Perfecting methods to keep packaged paper tight and square, without bowing skid tops, has been a project of Acme Steel for years. And here's proof that it's paying off.

An Acme Steel Strapping Press and Fully-Powered A4 Steelstrapper have eliminated loosening of strapping due to trapped air leakage between stacked sheets. Result: perfect skids that stay secure and square.

If stack misalignment and creeping packaging costs are pinching your profits, put Acme Steel's *proved* experience to work. Call your local Acme Idea Man, or clip the coupon for full facts.

**ACME
STEEL**

**IDEA LEADER IN
STRAPPING**

circle 2 on reader service card

ACME STEEL COMPANY
Acme Steel Products Division
Dept. MES-110
135th St. & Perry Ave.,
Chicago 27, Ill.

Please send me Idea No. S3-64 and examples of how major companies in my field use Acme Steel Strapping.

Name _____

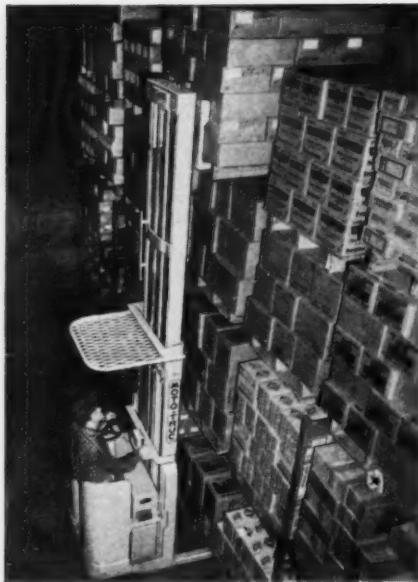
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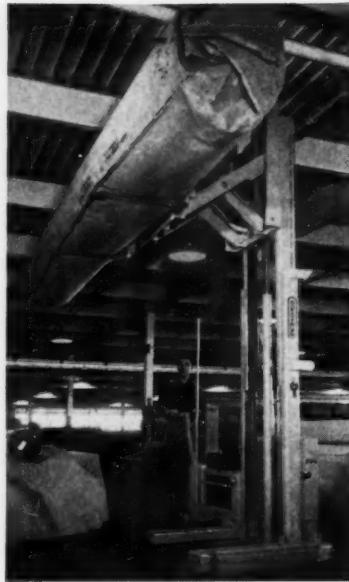
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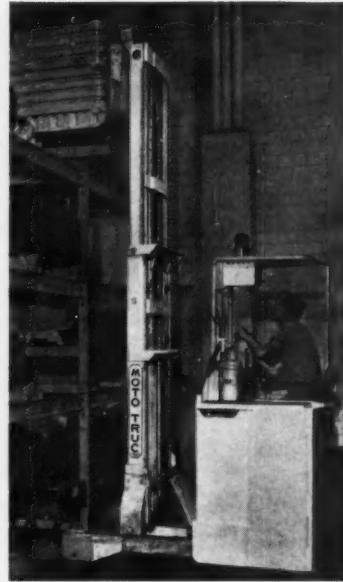




High stacking pallets with a small rider type outrigger truck.



A specialty truck for handling long loads in narrow aisles.



This Moto-Truc Mobile Mast is built for stacking in narrow aisles.



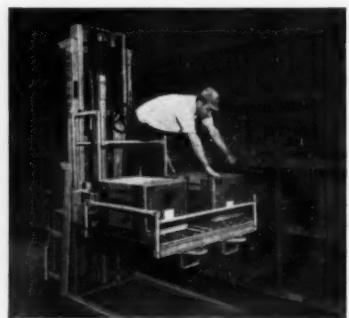
A rider type fork truck makes truck loading fast and easy.



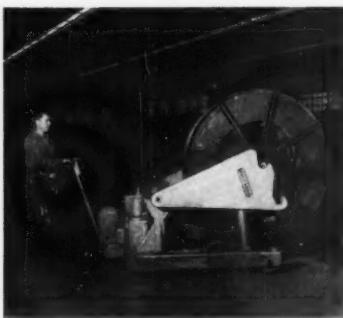
The Moto-Truc walkie pallet truck is used for horizontal handling.



Walkie tractors pull trailers on long hauls. Can be used for order picking too.



The operator rides up with the load on this special outrigger truck. Circle 91 on Reader Service Card



One of many special models — this one designed to handle cable reels.

MOTO-TRUC

has the best truck for your job!

Moto-Truc builds just about every kind of walkie and small rider truck you can think of.

No matter which one you pick, you can count on several important advantages. They are priced below competition . . . simply designed to reduce maintenance . . . ruggedly built to give dependable service. Repair parts are interchangeable on all models and are quickly available at low cost.

Experienced material handling men — the ones who keep a close watch on costs — have standardized on Moto-Truc. It will pay you to do it too! Now is the time to write or call for complete details.



The MOTO-TRUC Company

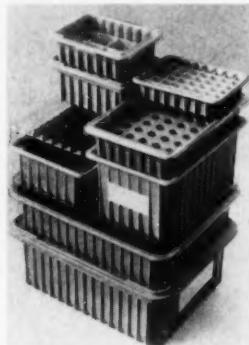
1955 East 59th Street, Cleveland, Ohio

PRODUCT NEWS

Continued from page 52

Standardized Box System

Uses one container with a variety of dividers, inserts, and covers. Modular boxes adapt readily to special han-

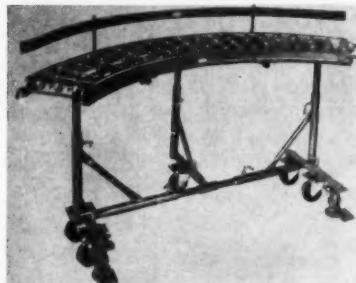


dling problems. Sixteen series come in graduated sizes. Made of heavy duty, lightweight thermoplastic. Store and handle delicate parts with maximum safety and minimum recovery time. See them at Booth 103.

Hollywood Plastic, Inc.
Circle 312 on Reader Service Card

Addition to Line

It's a complete line of package handling gravity conveyors. Hytrol offers a full complement of attachments and accessories to its line of powered belt conveyors. They're wheel and roller types 12, 18, and 24 inches wide, made of steel or



aluminum. Fast delivery is promised from one source. More information at Booth 109.

Hytrol Conveyor Co., Inc.
Circle 313 on Reader Service Card

Sweeps Round the Clock

Model CHD-36 rider-type power sweeper is built ruggedly to take long and hard usage. It sweeps up

to 100,000 sq ft per hour at speeds to 6 mph. Hydraulic drive, no gears



to shift. One pedal controls movement and speed. Turns in 66" radius, has plenty of power for ramps. Virtually dust-free. Hydraulically dumped debris hopper holds 1,150 lb. See it in operation at Booth 525.

Clarke Floor Machine Co.
Circle 314 on Reader Service Card

Stop Danger, Save Time

Operator's weight depresses spring loaded Safety Ladder Truck to floor. Rubber tipped feet provide positive



braking, prevent accidents. When operator steps off ladder it returns to up position, releases truck for movement. Safety tread steps for firm footing. Use it for quick, easy order picking from high shelves. No need for separate ladder. At Booth 516.

Nutting Truck And Caster Co.
Circle 315 on Reader Service Card

Strapping Made of Cord

Avistrap made of high tenacity rayon cord cannot rust, has no sharp edges, weighs little, is disposed of by burning. It tensions and seals the same as metal strap. There's a prototype pneumatic tensioner for use with it on display at Booth 244. Highly flexible cords conform to package shape and tighten on corners with minimum cutting into cartons. Shipped in long coil lengths on dis-

Continued on page 98

MOTO-TRUC

Leads the field in
“Walkie” Counter-Balanced Trucks



Small but rugged, Moto-Truc counter-balanced fork trucks are built in capacities from 1000 to 3000 pounds with 48" long loads. They are equipped with tilting, telescoping lifts up to 130" and will accommodate adequate battery capacity for a full eight hours of work.

When you need small, lightweight stacking equipment at minimum cost let a Moto-Truc walkie fork truck do the job.

Write for MOTO-TRUC Catalog - 56W



THE
MOTO-TRUC
COMPANY

1955 East 59th St. • Cleveland, O.

Circle 92 on Reader Service Card

PRODUCT NEWS

posable spools. Coils are light enough for handling by female personnel in shipping depts.

American Viscose Corp.
Circle 316 on Reader Service Card

Previews Pilot Model

Hyster has developed a new cushion-tire lift truck for economical handling of 2,000 lb loads. See the pilot



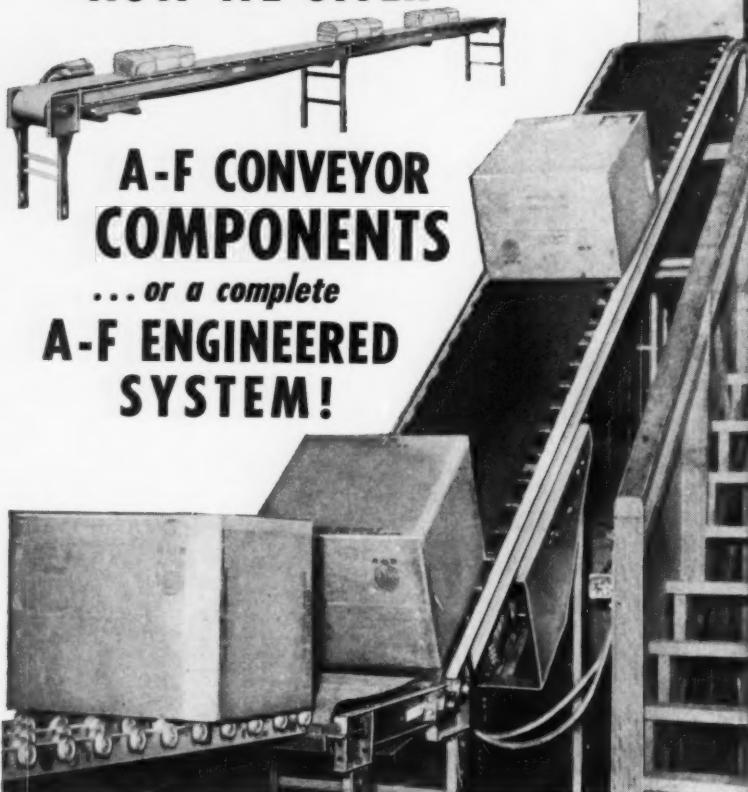
model SpaceSaver 20 in action at Booth 336. It's said to combine com-

pact size and maneuverability with high performance, functional design, and maintenance ease. There are no shift levers; a wide throttle pedal doubles as forward-reverse selector, part of the Monotrol control system. Other models on display range to 8,000 lb capacity, have 3-stage uprights for high stacking and low retraction for limited clearance.

Hyster Co.

Circle 317 on Reader Service Card

NOW WE OFFER—



YOU SAVE many ways with A-F "E-Z-Bild" Conveyor Components . . . Low first cost . . . Low Maintenance cost . . . Reduced handling cost . . . Easy re-assembly to meet new conditions.

YOU save even more with a plant wide A-F Engineered Conveying System. Automatic unloading and unloading devices, auto-

matic counting and shunting of products and cartons to proper storage, accumulating or shipping lines and many other new automated devices — if needed.

Before you order a single conveyor or a complete conveying system why not discuss the matter with one of our sales engineers. Write us — without obligation — today.



A-F Conveyors

Also Pre-Engineered Conveyors—
Wheel, Trolley, Roller, Belt
Metal Cleaning and Processing Machines

THE ALVEY-FERGUSON CO. • 438 Disney St., • CINCINNATI 9, OHIO
Circle 5 on Reader Service Card

For A Clean Sweep

Hydra-Sweep is speedy, easy to run; has no transmission, clutch, or drive chain. Braking done by hydrau-



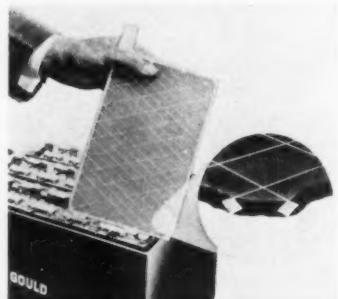
lic drive system. One pedal controls all movement. Hopper bottom, 3" off floor, picks up paper clips, bottles, chunks of 2 x 4's without humping sweeper. Constant engine speed keeps broom speed constant. Sealed hydraulic drive guaranteed 18 months. See it at Booth 240.

Hydra-Action Co.

Circle 318 on Reader Service Card

Battery Plate Improved

Gould's Siliconic battery plate is made by a patented process. Result is said to be 10-25% longer life and



improved electrical characteristics. Self-discharge is said to be less over

long idle periods. All models of the Thirty and Kathanode lines are available with the plate. At Booth 221 you'll see how to make batteries last 11 years.

Gould-National Batteries, Inc.

Circle 319 on Reader Service Card

Vacuum Lifts A Ton

Handle nonporous materials like stone, sheet and plate steel, and bar-



rels without hooks, clamps, or slings. Vac-U-Lift's vacuum Pad Pac is entirely self-contained, lifts 1,200 lb with a 16" diampad. Other pads vary from 8" diam and 300 lb to 24" diam and 2,400 lb. They all screw on to the standard Powerpac. They're at Booth 303.

Vac-U-Lift Co.

Circle 320 on Reader Service Card

Designers of Specials

Special machines solve knotty material handling problems standard



units sometimes cannot. Kilroy Co., Booth 317, designs and builds such equipment in two categories: Bulk conveyors and package conveyors. They built this king-size agitator screw for a soap maker, for instance, also build automation for material handling, such as live roller conveyor feed-ins. Drop by and talk with them if you have large volumes to move in a hurry.

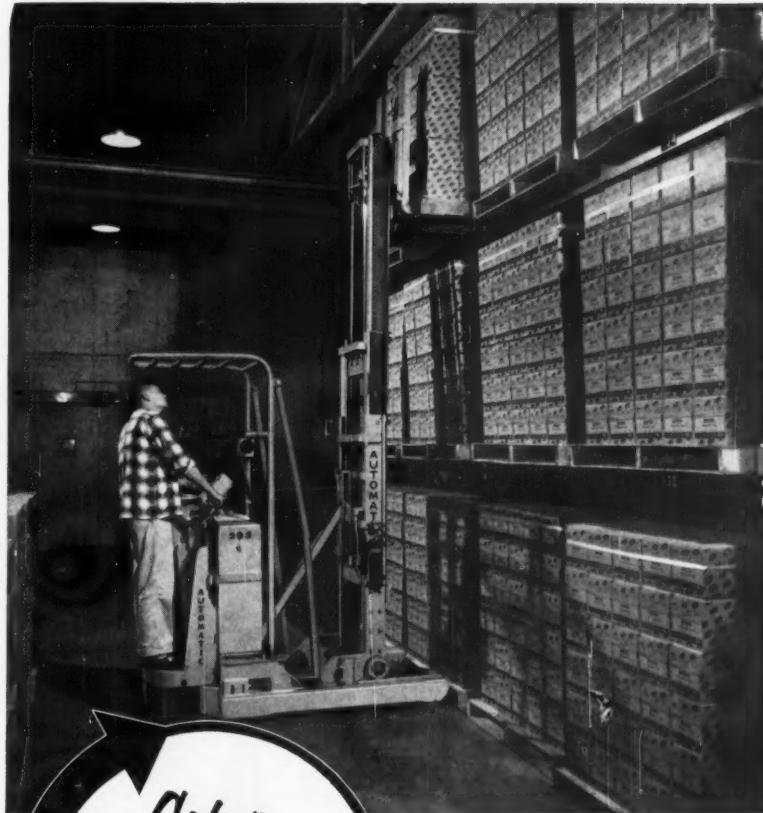
Kilroy Co.

Circle 321 on Reader Service Card

M-H Containers and Devices

There's a wide variety of boxes and devices made of wood at the

Continued on page 100



Got a
narrow aisle
problem?

AUTOMATIC®

has the right truck...

... to help you squeeze narrower and gain storage capacity without building a single square foot of extra warehouse space. Modern equipment like AUTOMATIC Model ESRT truck shown above can increase your storage space by as much as 40%!

Notice how the mast of the Model ESRT reaches forward to place the load in the rack. The heavy base straddle arms, which give the truck extra stability for high stacking, never enter the pallet or rack. This permits the ESRT truck to be used with any kind of pallet or rack installation. There's no need to change your warehousing methods or equipment to get the benefit of new, space-saving AUTOMATIC trucks.

The Model ESRT is just one of the 25 narrow aisle models which AUTOMATIC makes. See the complete line in the AUTOMATIC Industrial Truck Selector Guide plus narrow aisle applications illustrated in the "Narrow Aisles versus Wide Aisles" brochure. Write for your copy today or call your nearby AUTOMATIC dealer. He's listed in your phone directory.



AUTOMATIC TRANSPORTATION CO.

141 W. 87th St., Dept. WO, Chicago 20, Ill.

Division of the Yale and Towne Manufacturing Co.

Circle 9 on Reader Service Card



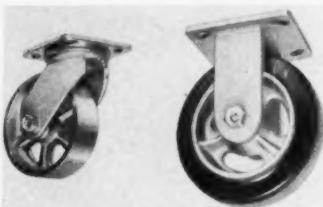
PRODUCT NEWS

National Wooden Box Association booth, No. 123. See full scale samples of bin boxes, tote boxes, carriers, skids, and bases; discuss them with staff personnel and representatives of member manufacturers. They have useful literature for you showing how to cut costs and improve handling.

National Wooden Box Association
Circle 322 on Reader Service Card

Put It on Wheels

Economical, medium-duty casters are available in Albion's Series 16



line. Recommended for medium-duty trucks and dollies, box or platform

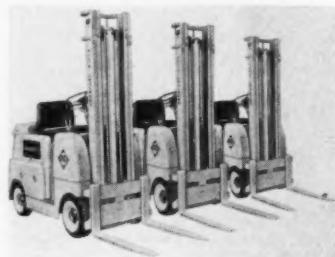
trucks, laundry baskets. They retain many of the features found in heavy duty models. Cold forged from $\frac{1}{4}$ in. steel plate, have work hardened raceway. See these casters and others at Booth 120.

Albion Industries, Inc.

Circle 323 on Reader Service Card

New Engine Featured

You'll find a complete line of fork lift trucks at A-C's exhibit, Booth 430. They're featuring new F-30, F-40,



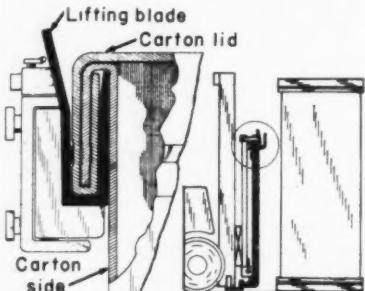
and F-50 models introduced at the Boston Show a few months ago. Capacities are 3-, 4-, 5,000 lb. The F-models are powered with new Power-Crater gasoline or LP gas engines with 52 hp max. Diesels available. Trucks are designed for speedy servicing; have many notable features.

Allis-Chalmers

Circle 324 on Reader Service Card

Boxed Goods Lifted by Lid

Lift-A-Pliance attachment for lift trucks picks up and stacks neatly without pallets six cartoned refrigerators at a time. (See story on



page 60.) A blade slides up between the side of the carton and the side of the lid for the lift. Boxes are stacked two high and three wide, then all six are high-stacked. Only lower boxes are engaged by the blades. A plate slides below carton bottom edges for support and to align stacks. Three models handle from one to eight cartons, two have forks

*Shelve STORAGE PROBLEMS
WITH
ERECTA-SHELF**

U.S. Patent No. 1,85,801

U.S. Patent No. 2,894,643

Erecta-Shelf's steel rod construction supports up to 1,000 lbs. per shelf! Shelves and uprights friction-fit into place without nuts, bolts or special tools! Assembly takes only minutes. Simple additions adapt Erecta-Shelf to most any height, depth or length requirement. You can count on Erecta-Shelf for a quick, easy, low cost solution to just about any storage problem!

WRITE FOR A FREE CATALOG TODAY!

a quality product of

METROPOLITAN WIRE GOODS CORP.

N. WASHINGTON ST. and GEORGE AVE.
WILKES-BARRE, PA.

Circle 86 on Reader Service Card

that fold when not in use. Blades swivel for exact alignment to carton surface. Demonstrated at Booth 410.

Basiloid Products Corp.

Circle 325 on Reader Service Card

Line of Clean Sweepers

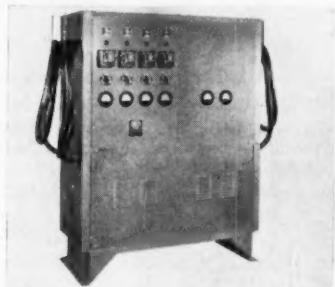
If you have floors to sweep, see Wayne's complete line of power sweepers at Booth 513. Featured is popular Model 706. It's a simple to operate rider-type job with a 15 cu ft hopper and a vacuum cleaning attachment. You can clean bins, shelves, other hard to reach spots as well as floors. Other Wayne models include a walkie-type and an electric model.

Wayne Mfg. Co.

Circle 326 on Reader Service Card

Automatic Battery Chargers

The Motor Generator Corp. has a full line of Hobart Portapak and Mon-

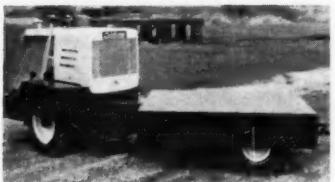


itor style chargers at Booth 224. The chargers are motor-generators with circuits for four batteries. Capacities range to 15 KW. Controls are fully automatic, cut off at full charge, then shut machine down. Monitor type follows modified constant potential charge curve. Portapak cuts in a timer for the last three hours of charging when battery is three-quarters charged. Circuits individually controlled.

Motor Generator Corp.

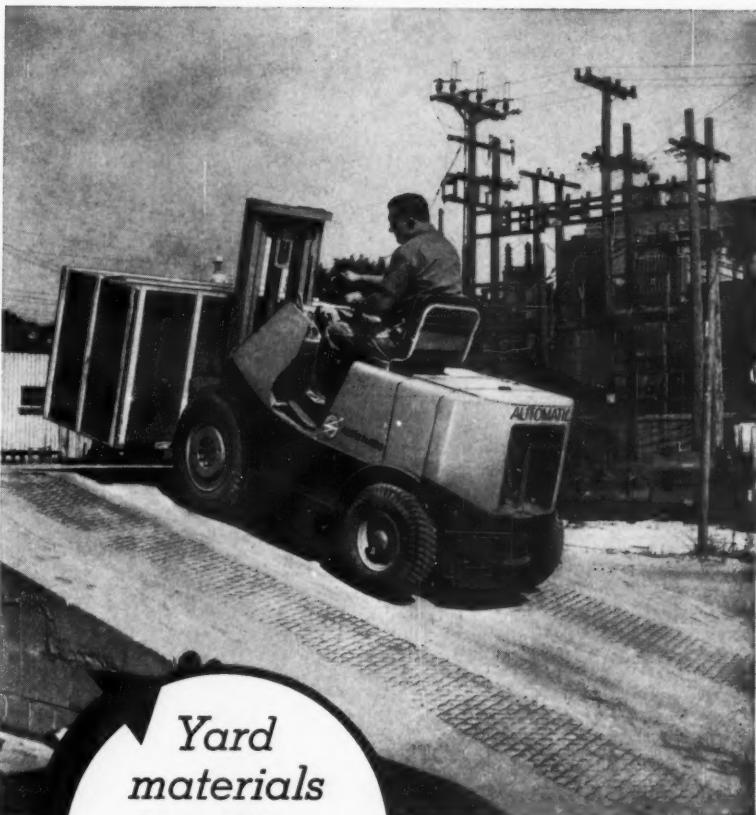
Circle 327 on Reader Service Card

Truck Bends, Elevates



Here's a platform truck for heavy loads in close quarters. It bends in the

Continued on page 102



*Yard
materials
handling
your
problem?*

AUTOMATIC®
has the right truck...

for this job in Model GLFP pneumatic tired gas-powered lift truck. With AUTOMATIC's unique power package, this truck develops high torque in low speed for those tough outdoor operations. It's high underclearance bridges the top of steep ramps without hanging up and moves easily over uneven ground. Power steering, available as standard equipment, makes this truck exceptionally easy to steer. Pneumatic tire models available in capacities from 3,000 to 8,000 lbs.

Other cushion tire GLF models are available in capacities from 3,000 to 10,000 lbs. All models in this series offer outstanding gas economy—cutting fuel consumption up to 30%, compared to similar gas trucks doing the same jobs. AUTOMATIC's famous quality construction also means less maintenance, lower cost operation.

The GLF series brings you all these *plus* advantages, yet costs no more than other gas-powered trucks with automatic transmission. Sounds like a real value? It is—get the full story in Model GLF bulletins or AUTOMATIC's Industrial Truck Selector Guide. Write today.

AUTOMATIC TRANSPORTATION CO.

141 W. 87th Street, Dept. WO, Chicago 20, Ill.

Division of The Yale and Towne Manufacturing Company



Circle 143 on Reader Service Card

PRODUCT NEWS

middle. Erickson unites platform and tractor with an articulated steering joint. Truck bed may be unusually long, still handles with ease. Simplified steering pivot said to reduce wear and need for service. Power steering standard. Speeds to 25 mph, automotive controls. Draw-bar pull to 3,200 lb. It's at Booth 320.

Erickson Power Lift Trucks, Inc.
Circle 328 on Reader Service Card

Combines Advantages

Clarklift Model C-20-P fork truck has pneumatic drive tires, cushion



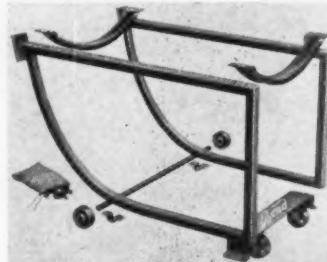
rear ones. It's said to combine the advantages of cushion and pneumatic

machines, and is finding good acceptance at brick and tile plants, textile mills, bottlers, cotton warehouses, and trucking companies. Capacity, 2,000 lb. Clark has six other types of trucks to show you at Booth 600, capacities 5,000 lb., gas and electric powered.

Clark Equipment Company
Circle 329 on Reader Service Card

Shows Casters, Barrel Truck

Bond's Light Duty 60 series, new this year, includes 15 types of swivel, rigid, plate, and stem casters. They're used on light industrial equipment,



store, medical, food, and institutional fixtures and equipment. Cushion rubber, hard rubber, phenolic, semi-pneumatic, and semi-steel wheels available. Also displayed at Booth 535 is Knockdown Model 4838-K barrel drain truck. It's shipped flat, packed in a carton; assembles in a few minutes to make a rigid, easy-rolling unit.

Bond Foundry and Machine Co.
Circle 330 on Reader Service Card

Does Your Present Sweeper Measure up to WAYNE?

If you are using old-fashioned sweeping methods, look at the money-saving advantages of *modern Wayne Power Sweeping*...

- One man and a Wayne can sweep up to 60,000 square feet of plant area *per hour*.
- There are no dust bags to empty. Dust is handled automatically by Wayne's exclusive Filter-Vac system.
- A Wayne sweeps more area because it has the largest *usable* hopper capacity of any sweeper.
- Quick broom changes let you match the broom to the work—get *all* plant areas super-clean.

Then add: better visibility, ample power, automotive controls, hydraulic dumping—all of which put Wayne head and shoulders above the rest for plant maintenance, inside and out, *the modern way*. Get a *Modern Power Sweeper—Wayne!*

Write for literature



WAYNE Manufacturing Co.
2320 East Lexington Avenue
Pomona, California

Send me a copy of your Power Sweeper brochure

Name _____

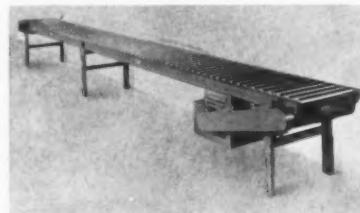
Attach to company letterhead and mail

Circle 132 on Reader Service Card

102

Conveyor Matches to Load

Unibilt EP series uses conveyed weight to adjust belt tension to the load. There's no need for manual settings; power is saved. Good for



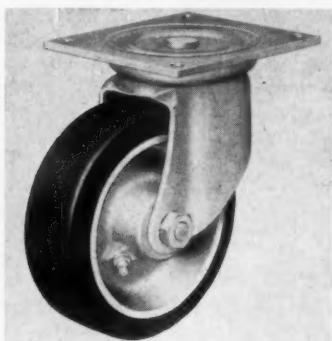
holdback or deflection loading and unloading. Choice of widths, roll spacing, lengths. End drive and center drive standard. Unibilt conveyors are built from standard, components that interchange between different conveyor types in Conveyor Specialty's line. They may be seen at Booth 529.

Conveyor Specialty Co., Inc.
Circle 331 on Reader Service Card

MATERIAL HANDLING ENGINEERING

For Heavy Duty

Bassick's super "99" series caster is an all-purpose one, ruggedly made



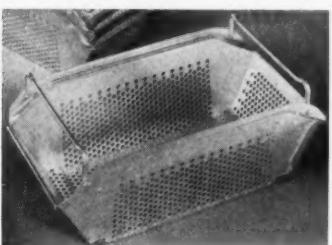
for rough service. It's on display at Booth 321, part of a complete line of industrial casters, position locks, wheels, clamps and fasteners. There's also a new non-staining, non-marking gray rubber tire, and a line of aluminum core, rubber tired wheels.

The Bassick Co.

Circle 332 on Reader Service Card

Baskets Stack, Save Shelving

Nestier metal baskets nest and stack compactly one atop another,



need no shelving. You get efficient November Issue use of floor space plus good house-keeping. Protect parts from damage with ready access and visibility. Made of sheet metal, perforated or not, and from expanded metal for degreasing. There's also a line of bench installed feeders and hoppers at Booth 510.

Nestier Co.

Circle 333 on Reader Service Card

Stepless Speeds From A-C Motor

General Electric features their Polydyne mechanical adjustable speed drive at Booth 111. The drive provides stepless adjustment of output speed from a-c motors. Other items in the display of mechanical power transmission products are: gear motors—both fractional and integral hp,

Continued on page 104



*Handling
paper
your
problem?*

AUTOMATIC®
has the right truck...

to help you move paper quickly, economically, safely inside press rooms, circulation departments, warehouses and on shipping docks. This battery-powered Transporter, for example, is an economical choice for short distance handling in tight quarters. Pallet Transporter with skid adapter can handle palletized or skid loads of paper for pennies a day—works dependably with minimum maintenance—is low in first cost. It's so simple and easy to operate anyone can be trained to use it. All controls are conveniently located on the handle. Transporters are available in low or high lift platform or pallet models and in stacking models. Stackers may be equipped with paper roll clamps.

AUTOMATIC also offers a complete line of rider-type trucks for paper handling including both gas and battery powered models. Send for full details: Transporter Facts and Factors and Truck Selector Guide describing AUTOMATIC's complete line. Write today.



AUTOMATIC TRANSPORTATION CO.

141 W. 87th Street, Dept. WO, Chicago 20, Illinois

Division of The Yale & Towne Manufacturing Co.



Circle 144 on Reader Service Card

PRODUCT NEWS

shaft mounted speed reducers, and helical speed reducers.

General Electric

Circle 334 on Reader Service Card

New Heavy-Duty Fork Lift

Towmotor's Monarch series is new from the ground up. See them at Booth 337. Lift capacities range from



10,24,000 lb. in 8 models, all on pneumatic tires for rough terrain. Low profile envelope-type body and

NO BOLTS • NUTS • FIXTURES

Portable
TIER-RACK

Makes Him
A QUICK-
CHANGE
ARTIST

...He Alters Your
Layout In Minutes

Reach solid-stowed or high-tiered items in a few quick moves... change your storage setup in a hurry... with portable TIER-RACK pallet stacking frames.

Aisles are costly! Cut yours to a minimum with the TIER-RACK system and use this space for additional storage.

Two identical steel tubular frames snap onto your regular pallet in seconds, converting it to a rack capable of supporting tons of weight.

TIER-RACK
PALLET STACKING FRAMES

Pat. No. 2,829,832; Pat. No. 2,829,833
and Pats. Pending

Tier-Rack's a snap to assemble.

Send for free Brochure M-6 today.

TIER-RACK CORPORATION

122 North 7th Street • St. Louis 1, Missouri

Chestnut 1-5451

Circle 122 on Reader Service Card

104

frame welded into a single, rigid unit. Single-chain mast and slanted cross-bar improve driver visibility. Tandem hydraulic pumps run cool, lift faster. Forks adjust from 2" to 66". Power steering standard. Maintenance made easier: parts serviced frequently are top mounted on engine. The new series replaces models formerly made under the Gerlinger name.

Towmotor Corp.

Circle 335 on Reader Service Card

Cleans Floors Fast

Turbo-Sweep "40" sweeps all types of flooring and paved surfaces, indoors or out, is said to clean 50,000 sq ft per hour and reduce labor cost as much as 80%. Has collector



for dust; dirt and debris go into a large hopper that empties easily in seconds. You can look over Parker's entire industrial sweeper line at Booth 218.

Parker Sweeper Co.

Circle 336 on Reader Service Card

Lifts 2 Tons In Narrow Aisles

Model RST goes down narrow



aisles to stack 1,000 to 4,000 lb pallet loads. It's a 24-volt rider-straddle high lift job, new in Barrett-Cravens' line. Gear drive is a package unit, easily accessible, removed by unscrewing 4 bolts. Single, large drive

MATERIAL HANDLING ENGINEERING

may be seen at Booth 431. forward and back. Other models also wheel, rubber-tired. Four speeds
Barrett-Cravens

Circle 337 on Reader Service Card

Carries Ton, Steers Easy



Hamilton's model 4200 Millwright truck steers safer and easier. It has a compact forged steel 5th wheel that rides on precision bearings. The truck is one of 6 basic 5th-wheel steer trucks with capacities to 10,000 lb. They'll show you many ways to lighten your loads at Booth 505.

Hamilton Caster & Mfg. Co.

Circle 338 on Reader Service Card

Battery Dependability

Bowers Five-Clad industrial truck batteries have plate insulation five



layers deep, said to reduce shedding to a minimum. In addition, special alloys in plates and grids promise greater protection against overcharging and corrosion. Special quality-control during manufacture makes certain all plates weigh alike. For the complete story stop at Booth 311.

Bowers Battery and Spark Plug Co.

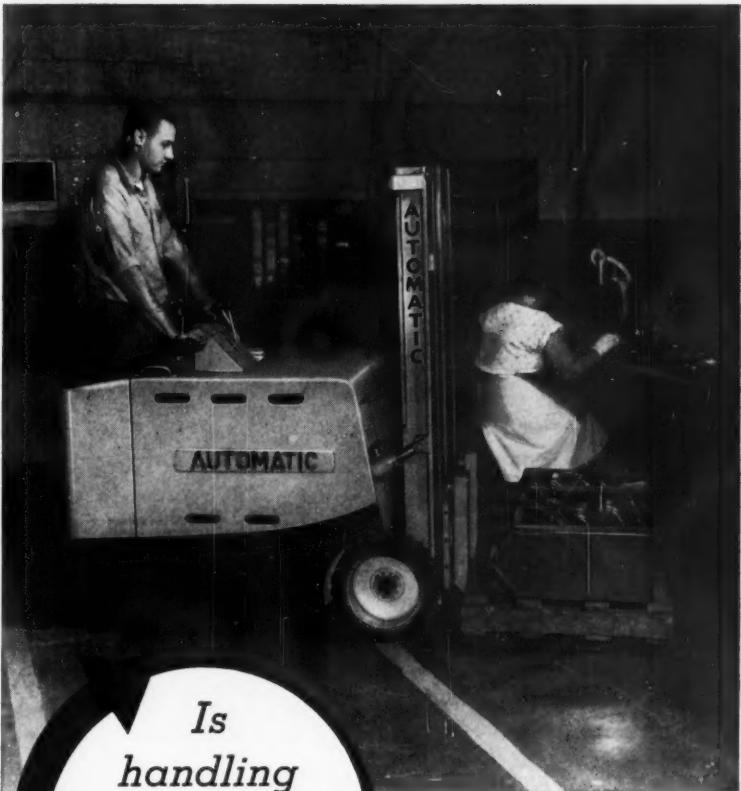
Circle 339 on Reader Service Card

Finance Plans Detailed

You may rent gas or electric lift trucks on a 3, 4, or 5 year basis with option to buy under a special lease plan offered by C.I.T. Corp. They have a variety of programs to

Continued on page 106

November 1960



*Is
handling
goods near
people your
problem?*

AUTOMATIC®

has the right truck...

for materials handling near production line assemblers, machine operators and other indoor workers. AUTOMATIC'S battery powered electric Docker, for example, works silently and smoothly without engine noise or objectionable fumes that disturb workers and cause operator fatigue. Because of its stand-up end control design it can work easily in any type of congested areas where the operator is required to be constantly on and off the truck.

The Docker is just one of over 200 AUTOMATIC models which offer the advantages of battery powered electric truck operation. Get the full story about the Docker in the brochure "Docker Facts and Factors" or write for the helpful Truck Selector Guide which describes the complete AUTOMATIC line. Write today.

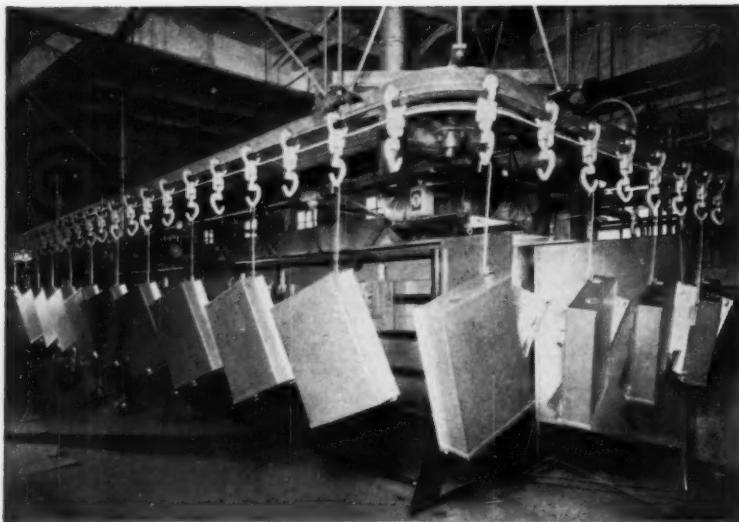


AUTOMATIC TRANSPORTATION CO.

141 W. 87th Street, Dept. WO, Chicago 20, Ill.
Division of The Yale & Towne Manufacturing Company

Circle 145 on Reader Service Card

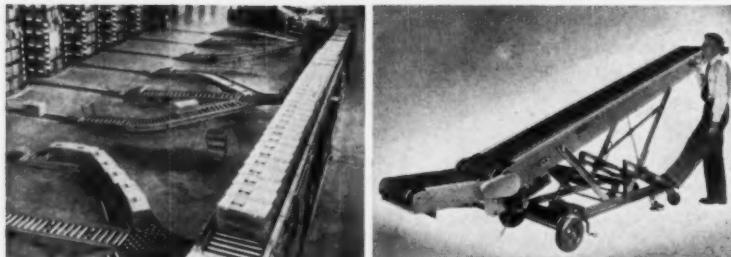




BUSCHMAN SPECIALIZATION Pays Off In Your Plant

Buschman designs, manufactures and installs conveyors . . . good conveyors . . . *nothing but conveyors*. Specialists in the field. Whatever you buy from Buschman is experience-engineered to fit your needs: Roller conveyors, wheel, belt, live roller, overhead trolley and table-cable conveyors, slat, pusher bar, live storage racks and elevating equipment.

Buschman combines components in systems that effect greatest economy in your handling. Given Buschman engineering and stocked parts, you can install. Tell us about the handling job that faces you; we will send literature and suggestions. The E. W. Buschman Company, 4450 Clifton Avenue, Cincinnati 32, Ohio.



Buschman CONVEYORS

Complete Conveyor Systems for all Industries—Engineered, Manufactured, Installed
Representatives in Principal Cities; See Yellow Pages

868

Circle 19 on Reader Service Card

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PRODUCT NEWS

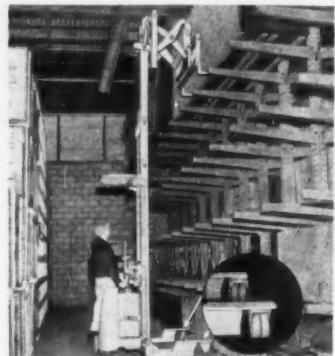
fit other needs in materials handling at Booth 200. There might be a tax advantage for you, and a retention of ready cash.

C. I. T. Corporation

Circle 340 on Reader Service Card

Use Narrow Aisles

You can stack heavier loads higher along space-saving aisles with trucks from Raymond's line of electrics. There's a 4-D narrow-aisle model that



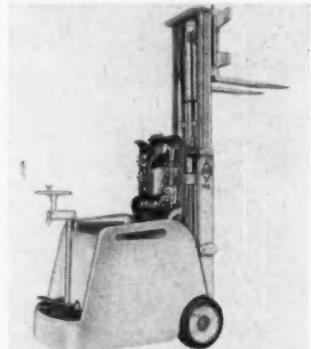
moves in any one of four directions from a standstill. It's demonstrated at Booth 220. See other models from Pal-Jac hand pallet trucks to high-speed 24-volt, 4,000 lb capacity jobs.

The Raymond Corp

Circle 341 on Reader Service Card

Quick Truck Maintenance

Access to control gear on Scot lift trucks is easy. Electric and hydraulic components are mounted on



the underside of the top cover. You do maintenance at arm's length and eye level. Models for 3,000 and 4,000 lb lifts climb 20% grades loaded, make 6 1/2 mph. Smith has many other features to show at Booth 437.

James Campbell Smith, Inc.

Circle 342 on Reader Service Card

Continued on page 108

MATERIAL HANDLING ENGINEERING

**YOUNGSTOWN
TOP LOADING
AND
BOTTOM UNLOADING
CONTAINERS
HANDLE ALL BULK
MATERIALS**



These bulk materials are now being handled in Youngstown containers:

- 1 — Silica sand
- 2 — Foundry sand
- 3 — Ferro-chrome
- 4 — Ferro-silicon
- 5 — Ferro-manganese
- 6 — Alkaline and carbide materials
- 7 — Lime
- 8 — Dolomite
- 9 — Scrap and chips
- 10 — Castings

• Consult with us for improved handling of your bulk materials

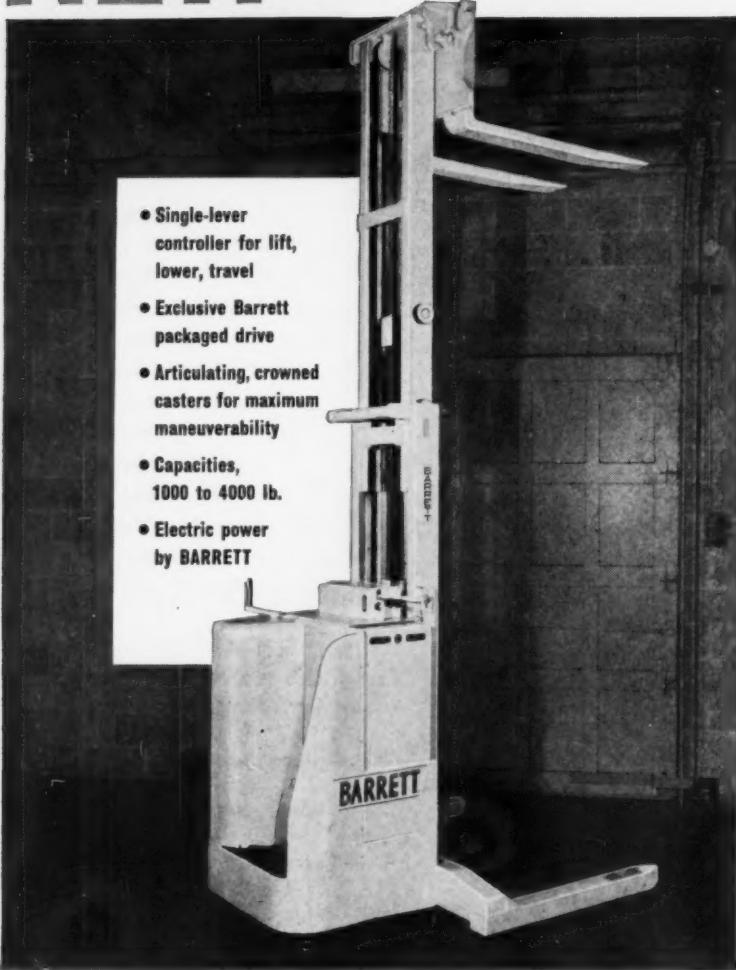
THE YOUNGSTOWN STEEL DOOR CO.
Camel Sales Company • Camel Company Limited
CLEVELAND • CHICAGO • NEW YORK • YOUNGSTOWN

Circle 141 on Reader Service Card

November 1960

NEW

a narrow aisle hi-stacker with exclusive features



- Single-lever controller for lift, lower, travel
- Exclusive Barrett packaged drive
- Articulating, crowned casters for maximum maneuverability
- Capacities, 1000 to 4000 lb.
- Electric power by BARRETT

Speed pallet handling in narrow aisles to economize. Barrett's new Model RST Rider Straddle Fork Truck does it!

Easy maneuverability adds to efficient operation. Controls are right at hand. Proper leverage allows turning as easy as power steering. Truck travels up to 5.5 m.p.h.—3 speeds forward, 3 reverse.

Other features include new single-package gear drive, easily accessible and easily removable. Added safety with dead-man-type brake. Also available with triple telescopic masts. Write for Model RST Bulletin 598 for complete details and prices.

BARRETT

BARRETT-CRAVENS COMPANY • 614 Dundee Road • Northbrook, Illinois

FIRST WITH AUTOMATED MATERIALS HANDLING

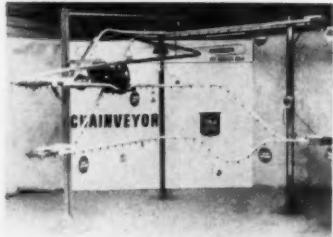
Circle 146 on Reader Service Card

108

PRODUCT NEWS

Got a Handling Problem?

Chain conveyors often solve difficult handling problems. They adapt



easily to production speeds, offer selective storage, automatic dispatching, recirculation, and will repeat cycles. See it done by Chainveyor, Booth 420. There's a full-size working model complete with power and free combinations and special carriers.

Chainveyor Corp.

Circle 343 on Reader Service Card

Get more information on these products by circling the numbers on the Reader Service Card, page 87.

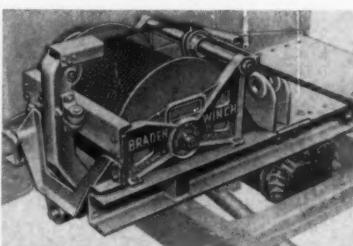
Aerosol Blanks Stencils

Covers old stencils, labels, paint, crayon marks. Transforms used and outdated cartons, boxes, crates, drums, barrels into clean unmarked containers ready for reshipping. Highly opaque; tan colored. Dries fast, one coat covers. Correction of stenciling errors easy. Packed in 16 oz cans.

Perc E. Harms

Circle 344 on Reader Service Card

Winch Is Different



Model CL hydraulic winch separates power and storage functions of winch drums. This results in loads,

MATERIAL HANDLING ENGINEERING

speeds, torque, and horsepower that are constant, according to the manufacturer. Cable is pulled in by 2 power drums; a storage drum gathers it up. Rated at 12,000 lb; said to outperform regular 20,000 lb units.

Motor Products Corp.

Circle 345 on Reader Service Card

Tote Box For Large Parts

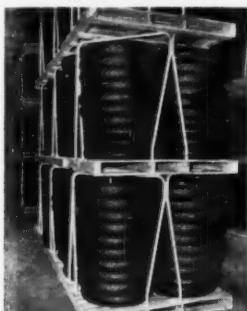
Weighs less than 10 lb, holds 300 lb. Made of linear polyethylene. Ideal for degreasing and washing; maintains characteristics below zero and up to 250°F. Resists acids, alkalies, oils; won't rust, splinter or corrode. ID sizes: 26 $\frac{3}{4}$ " x 25" x 12" deep.

Patti Plastic Corp.

Circle 346 on Reader Service Card

Tire Picking Without Unstacking

With Hi-Line storage racks, 4 corners of pallet are open. You can pick from any pallet without disturbing



those stacked above. Eight leg design gains max strength, max stability, min weight, according manufacturer. Each unit stores 45 tires in 48" height, and erects easily. There are 2 methods for securing racks to pallets: one knocks down to save space, the other mounts permanently.

Warehouse Storage Systems Co.

Circle 347 on Reader Service Card

Truck Scale Weighs 3 Axles

Simply drive truck onto 3-platform scale; position front, center, and rear wheel sets on respective platforms. Fast, accurate, easy. Electronic load cells support each platform; indicate axle weights separately and in total. All 4 readings take less than 30 secs. Accuracy: $\pm 0.1\%$. Information transmitted up to 1,000 ft to remote recorders.

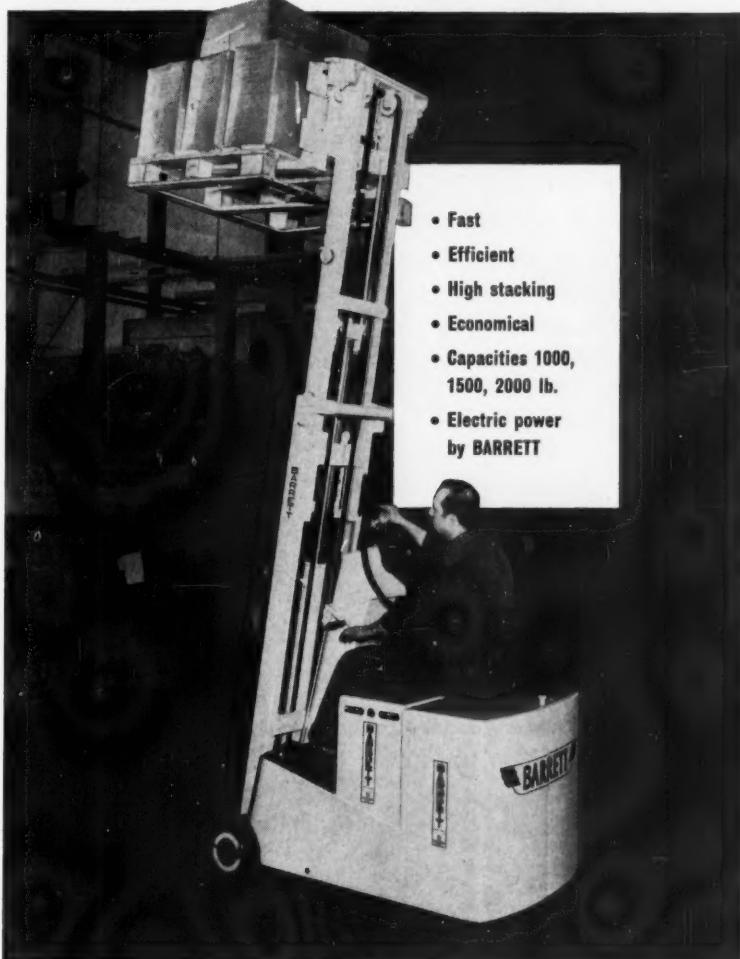
Toledo Scale Corp.

Circle 348 on Reader Service Card

Continued on page 110

NOW

high lift stacking truck anyone can afford



- Fast
- Efficient
- High stacking
- Economical
- Capacities 1000, 1500, 2000 lb.
- Electric power by BARRETT

Versatility, speed and efficiency produce economy. That's what Barrett's new Model TTR Sit-Down Rider Fork Truck offers.

This Model TTR goes everywhere. Congested areas and narrow aisles present no problem for the short turning radius of the TTR. Unsurpassed stability with triangle-type 3-wheel floor contact. Quick and easy to maneuver, with automotive-type steering wheel, 4 speeds forward, 4 reverse—up to 5 m.p.h.

Additional features include handy controls; new, single-package gear drive; quick accessibility. Write for complete details and prices—Model TTR Bulletin 599.

BARRETT

BARRETT-CRAVENS COMPANY • 614 Dundee Road • Northbrook, Illinois

FIRST WITH AUTOMATED MATERIALS HANDLING

Circle 147 on Reader Service Card

K W Battery Company representatives are knowledgeable people who understand the product they sell. If you have a battery power problem or are in the market for new or replacement batteries... call the representative nearest you. We highly recommend them as practical consultants capable of analyzing expanding problems and in reducing operating costs.

*You're so right
when you call a
KW Battery
representative!*

Akron, Ohio
Albany, New York
Atlanta, Georgia (Stone Mountain)
Baltimore, Maryland
Birmingham, Alabama
Buffalo, New York (Lockport)
Charleston, West Virginia
Chicago, Illinois (Skokie)
Cincinnati, Ohio
Cleveland, Ohio (Olmsted)
Dallas, Texas
Denver, Colorado
Des Moines, Iowa
Detroit, Michigan
Grand Rapids, Michigan
Nashville, Tenn.
New York, New York
Omaha, Nebraska
Palm Beach, Florida (North)
Pittsburgh, Pennsylvania
Portland, Oregon (Gresham)
St. Louis, Missouri
St. Paul, Minnesota
San Francisco, California
Springfield, Illinois
Sterling, Illinois

Ford Ransweiler
Chauncy Van Alstine
Lamar Bagwell
William Young
James Gambill
T. D. Demeter
A. F. Gall
Robert Rinehart
Shird Moore
Roy Neugebauer
Richard Young
C. R. Birkhead
C. E. Kent
Ralph Robison
S. P. Stevens
Arthur Wilson
Thomas Murphy
O. T. Christiansen
Philip F. Nymark
Donald Wickman
M. E. Hughes
Harvey Gershenson
C. J. Mergens
John Scott
Paul Staub
William Bardouski

Po. 2-7458
Ho. 3-3787
8727
Be. 5-3726
Al. 2-3105
3-8756
Di. 6-0321
Am. 2-9600
Ki. 1-1113
Sp. 7-2569
La. 1-5108
Ge. 3-6322
Ch. 4-9107
Un. 2-6525
Gl. 2-6446
Co. 2-3811
Co. 7-5455
Prospect 3533
Tu. 4-5575
Mo. 5-6982
Je. 5-3210
Mi. 8-5451
Yu. 6-4088
2-5351
3858

K-W
BATTERY COMPANY

3555 Howard St., Skokie, Illinois

Quality Industrial Batteries. Originators of the "Piggy Back Charge".

Circle 74 on Reader Service Card

118

PRODUCT NEWS

Stop And Go Recorder

Line of recorders permanently and accurately records all stopping and operating time on a tamper-proof



chart. Electric and mechanical models for production machines, and material handling equipment. Electric ones record up to 4 machines at once; may be mounted directly or indicate remotely. Recordings made on 360° chart by special dry process that uses no ink.

Argo Instrument Corp.
Circle 349 on Reader Service Card

Lifts, Stacks, Tilts Drums

For fast operation in narrow, crowded drum aisles. Big Joe rotates drum 360° for low or high level



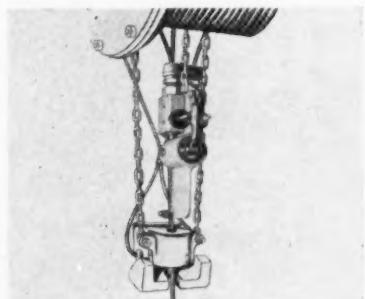
pouring—up to 130" high. Operation is simple, safe, accurate—use unskilled labor. Tilt-pouring is ground controlled. Features 12-volt hydraulic lift, handles 1000 lb.

Big Joe Mfg. Co.
Circle 350 on Reader Service Card

MATERIAL HANDLING ENGINEERING

Hoist Overload And Slack Protection

When electric hoist is overloaded, limit switch cuts off the power. The

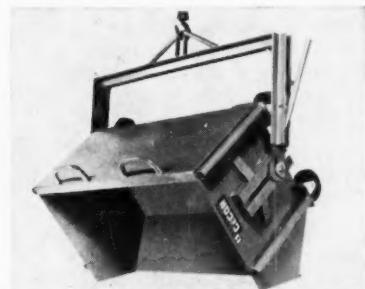


switch also prevents excessive cable unwinding when spotting blind loads. It works on 5 to 10 lb overload. Any interference with load makes switch cut off power, keeps cable from unreeling with consequent piling on rewind. Won't interfere with normal operation under prescribed load capacity.

Shepard Niles Crane & Hoist Corp.
Circle 351 on Reader Service Card

Speeds Scrap Handling

Dumping chips, scraps, waste, or small parts directly from a side-load-



ing dump cart is speeded up by use of hoist frame with a trigger release. Frame latches easily and securely to cart. A push on the trigger overturns cart. It swivels 360° at dumping height, completely empties. Model 43D cart carries 500 lb; has low side for easy loading.

Coolant Equipment Corp.
Circle 352 on Reader Service Card

High Heat Infra Red Conveyor

For heat conditioning, setting, and drying. Oven temp to 500°F. Features all aluminum alloy conveyor. Easily assembled from prefabricated parts. Acid, rust, and corrosion resist-

Continued on page 112

Built for rugged service...

2 NEW lightweight floor trucks

Here are 2 new trucks that feature corrosion-free properties plus strength without weight . . . up to 40% lighter than steel. This permits use in almost any industry plus larger loads and more trips with less energy, less manpower.

Nutting Structo-Lite Trucks are made of heat treated aluminum alloy, the same type used for heavy duty structures . . . non-sparking for safety where explosive material is used, non-toxic and resistant to attack by food and unaffected by most chemicals, and many acids and alkalies. Exclusive Nutting unitized frame construction holds proper alignment throughout unusual loads and abuse. New 3 bearing "friction-free" casters for easiest possible maneuvering.



Nutting Fiberglass Box Trucks weigh as little as 70 lbs. (steel trucks of the same size, 120 lbs.) Chrome impregnated fiberglass is impervious to steam, oil and mild acids and alkalies — won't crack or corrode — withstands temperatures from -40°F to 212°F, even up to 250°F for short exposures. Smooth inside with rounded corners for easy cleaning.

These light, but extra rugged trucks are designed to increase your handling efficiency and to save you money — based on lighter weight, longer life, reduced maintenance and less downtime. For full information send the coupon today.

Nutting **TRUCK AND CASTER CO.**
102 Division Street • Faribault, Minnesota

Send Structo-Lite aluminum truck literature
Send fiberglass truck literature

NAME _____

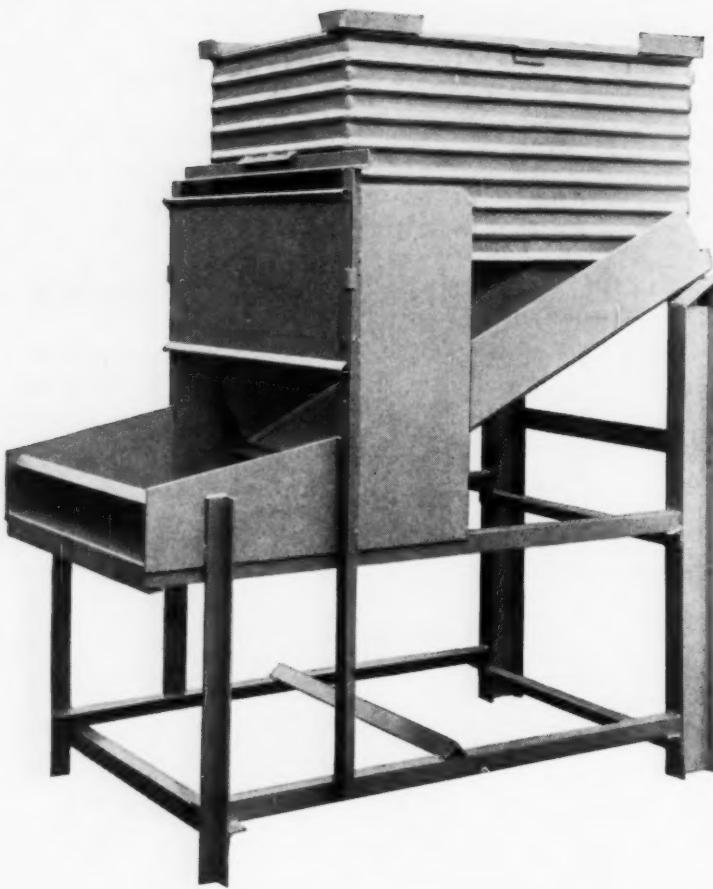
COMPANY NAME _____

ADDRESS _____

CITY _____ STATE _____

CASTER
FLOOR TRUCK
MADE IN THE U.S.A.

Circle 98 on Reader Service Card



WORK-O-MATIC DROP-BOTTOM BOX AND POSITIONING STAND

Partners in handling Simplification

For details, request Catalog No. 89.
The Union Metal Manufacturing Company,
Canton 5, Ohio

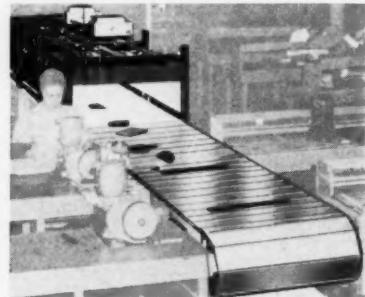
UNION METAL
Material Handling Equipment

Circle 127 on Reader Service Card

112

PRODUCT NEWS

ant. Speed variable to 100 fpm. Reversible. Cleats for inclines. Standard



5 ft sections; heights and widths to spec.

Mercury Industries, Inc.
Circle 353 on Reader Service Card

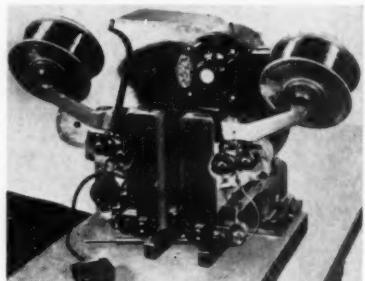
Photo Cell Wears Binders

Pulsolite photoelectric relay operates on modulated light-beam signal; responds only to the signal. Daylight, other sources cannot trigger it. Rugged, extremely sensitive; works well in adverse conditions. Dense dust, fog, even paint spray won't affect operation. Use it to control conveyors, doors, machines. Will detect position of parts in ovens, kilns, furnaces. Will handle 600 operations per min.

Clark Controller Co.
Circle 354 on Reader Service Card

Stapler Has 2 Heads

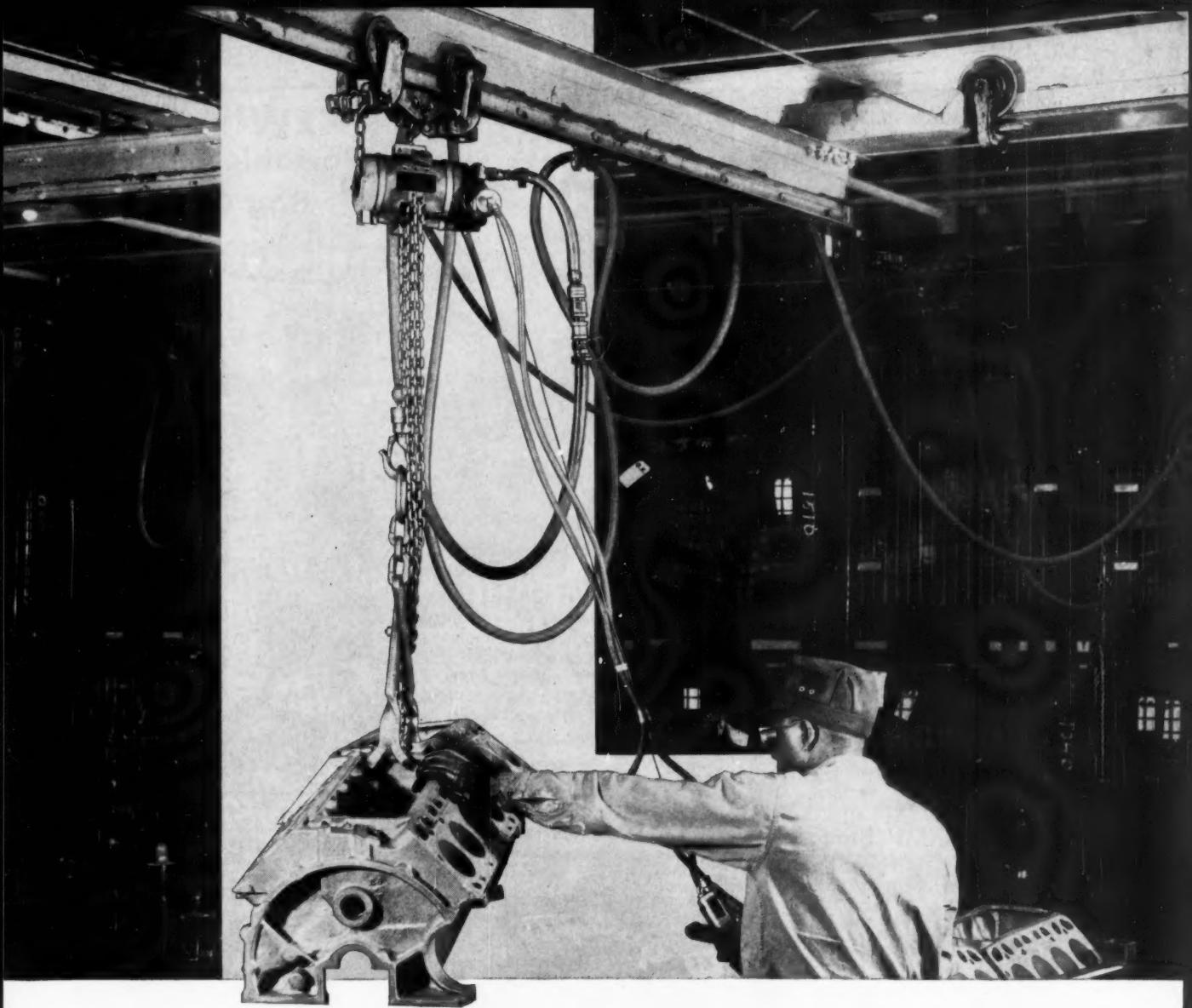
Adjustable dual head Wire Stitcher makes and inserts 2 staples at once from coils of wire. Fastens materials



to $\frac{1}{8}$ in. thick. Heads adjust from $3\frac{1}{2}$ in. to 9 in, center to center of staples. Machine is portable; has throat depth of 10 in. Two coils of wire make 120,000 staples before reloading. Foot- or micro-switch operation.

General Staple Co.
Circle 355 on Reader Service Card
Continued on page 114

MATERIAL HANDLING ENGINEERING



can you name the Air Hoist in the picture?

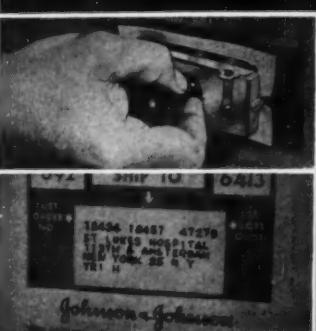
it will pay you to know

here are some clues: It's the original rotary vane air hoist. There are plenty of "Chinese copies" around. But this hoist has features that can't be copied. It's available in a complete line, link or roller chain, 1/2 or 1 ton capacity. Hundreds of carefully chosen distributors, with experience to recommend the right model for your application, make it available from coast to coast. Although it is virtually maintenance-free, factory-trained service is available. It's the air hoist for all your lifting. It's an ARO. The Aro Equipment Corporation, Bryan, Ohio.

PRODUCT NEWS

Battery Powers Rider Tractor

DC tractors haul trailer trains fast and economically, the maker says. They turn short, maneuver easily, run



With "Ship To" frame pre-printed by carton maker, shipping clerk uses Multistamp Duplicator to address up to 1000 pieces of the same shipment with the same low-cost stencil . . . identically, accurately, quickly, easily.



Using Multistamp FORM-CUT stencil, printing the form and fill-in data at the same time is an easy, one-man, one-hand operation. Your form is custom die-cut in the stencils . . . you fill them in with ball point pen or typewriter.

MULTISTAMP Stencil Addressing System Quickest Way for Volume Shipping

EASY-TO-READ
FADE PROOF

QUICK DRYING
WATERPROOF

Shipping department addressing errors are virtually eliminated when address and routing information are printed directly on cartons by the Multistamp Stencil Duplicator. The print becomes an identical smear-proof . . . fade-proof . . . water-proof . . . permanent part of every carton. Following simplified Multistamp Marking Methods, the address stencil is cut in the same typing which fills out shipping order, bill of lading, invoice, and other forms. One typing . . . one easy operation.



Write Today for your
Free copy of the illus-
trated new how-to book
on Multistamp Marking
Methods.

MULTISTAMP
STENCIL DUPLICATOR
THE MULTISTAMP CO., NORFOLK, VA.

Circle 93 on Reader Service Card

114

on 12- or 24-volt batteries. Brakes and speed controlled by squeeze grips—1 for each hand. It's impossible to work them both at the same time. The 24-volt job moves 10,000 lb 3 1/2 mph; unloaded it does 6% mph.

Barrett-Cravens Co.

Circle 356 on Reader Service Card

Throw Pallet Away

Expendable Econ-O-Pallet looks and loads like conventional pallets, handles with conventional equipment, is so inexpensive it may be shipped



with the load with no deposit or return agreement, says the maker. Holds 28,000 lb; weighs less than 7 lb. Assembled in less than a minute; no staples or glue used. Moisture resistant.

Materials, Inc.

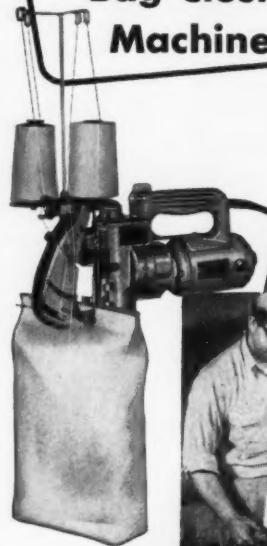
Circle 357 on Reader Service Card

Hoist on Ladder

Hoisting ladder has a self-dumping hopper for sand, gravel, other bulk

Continued on page 116

NEW! Portable Electric Bag Closing Machine



CLASS
2100

HERE is a handy little machine that makes bag closing fast, easy, and economical. It is recommended where operations are limited or intermittent and do not justify installation of large, high production machines.

LIGHTWEIGHT—9 1/2 pounds. Carry it anywhere. No installation; requires only an electrical outlet.

POWERFUL—Exclusive top and bottom feed for greater power and production. Direct drive motor with thumb control button.

VERSATILE—Closes bags made of cotton, burlap, jute, multiwall paper, laminated paper. Produces two-thread stitch Type 401, or can be furnished to produce single-thread chain stitch Type 101.

SAFE—Anyone can operate it. No special training required. Can be obtained with overhead suspension. Also, can be supplied with pedestal bracket.

Union Special®
MACHINE COMPANY

Originator of
Filled Bag Closing Machines
415 N. Franklin St., Chicago 10, Illinois

Circle 128 on Reader Service Card
MATERIAL HANDLING ENGINEERING



SO YOUR PRODUCTS ARE "DIFFERENT"!

Of course your products are different — that's what makes your warehousing problem so much like everyone else's. If you've rejected some of the new concepts of warehousing because your products or warehousing problems are "different", you may be denying yourself important savings of space and cost.

Through many years of pioneering experience in modern warehousing techniques, Rapistan engineers have found that even the most "impossible" warehousing situations can be modernized, at reasonable cost.

Very often, the key to gaining the advantages of "live storage" for problem parts is to place them in a "conveyable" condition. The shapes, sizes, and handling requirements of products may seem to preclude the use of live storage techniques. But simple, low-cost, standardized containers may allow you to store such materials on wheels or rollers, where they belong for reduced handling and easy accessibility.

Standardizing containers for more efficient warehousing can be much less complicated than it may seem at first glance. Pallets, tote boxes, trays or hangers may serve as suitable containers or carriers, at very low cost.

Your Rapistan engineer has a wealth of experience in putting non-conveyable items into conveyable condition, and applying the principles of live storage to those "impossible" warehousing problems. He'll be glad to suggest a few ideas that may work in your case. We'll send you some examples of knotty problems untangled by low-cost containerization. Just circle No. 10 on the Reader Service Card.



CONTAINERS CAN BE STANDARDIZED to just a few shapes and sizes to handle most parts. This plant warehouses almost 1,000 different parts, using only three sizes of tote pans and boxes, and two pallet designs. Instead of handling individual parts, they are handled by the hundreds. Transfers are easier and safer, man-hours of handling labor are reduced.



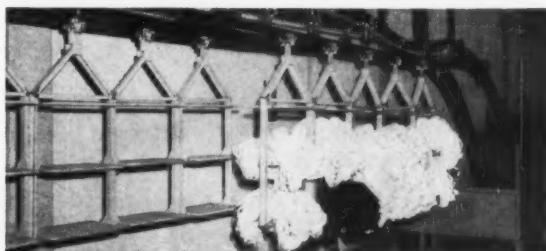
HEAVY GENERATOR PARTS, in this electrical plant, are "warehoused" at several points in the progressive assembly operations. Low-cost wooden pallets serve as standard containers allowing assembly and storage operations to take place on conveyor for maximum efficiency.



MODERN WAREHOUSING TECHNIQUES

including many examples of live storage are illustrated in this up-to-date manual. To get your copy of our new Flow Rack brochure, Circle No. 11 on Reader Service Card.

R-K OVERHEAD CONVEYOR LETS YOU CLAIM "AIR RIGHTS" FOR LIVE STORAGE



An inexpensive, simple fixture can make many odd-shaped, "problem pieces" suitable for live storage on Rapistan-Keystone overhead trolley conveyor . . . releasing valuable floor space. On R-K conveyor, they are in their most accessible form, since the overhead conveyor delivers them to an order selection point or the next work station where the conveyor dips to within easy reach of workers.

We'll send you illustrated examples of unusual products being warehoused efficiently and economically on R-K overhead conveyor. Just Circle No. 12 on the Reader Service Card.

Rapistan®
CONVEYING EQUIPMENT
The RAPIDS-STANDARD CO., Inc.
706 Rapistan Building, Grand Rapids 2, Michigan



I'm no tax expert but...

"I found one way of saving my company a fabulous amount of money!

I started ordering our shipping labels from Ever Ready, where you get a 'quality' job at a low, low price—because Ever Ready is one of the largest and most experienced label producers in the country."

Ever Ready's tremendous volume, twice that of most other label printers, means lower costs for us—lower prices for you.

Ever Ready's shipping labels are easy to order by mail. If you use 6000 or more shipping or mailing labels per year you'll find amazing savings with Ever Ready. Just mail this coupon for our helpful brochure.



EVER READY LABEL CORPORATION

357 Cortlandt Street . . . Belleville 9, N. J.

- Please send me the Spot Carbon Label folder.
- Please send me brochure on mailing and shipping labels.

Name Title

Company

Street Address

City, Zone, State

Circle 55 on Reader Service Card

116

PRODUCT NEWS

loads. Speeds up-the-ladder movement at job sites. No special skill to operate. Made of aluminum alloy. In-



cludes foot control, friction clutch to hold load at any point, manual drag brake to control descent. Gasoline or electric power.

Bush Mfg. Co.
Circle 358 on Reader Service Card

Faster Heat-Sealing

Camie silicone aerosol spray speeds up heat sealing, reduces cleanup. You spray the hot bars on sealers and hand irons for increased heat transmission, less sticking. Said to work well with cellophane, poly, wax paper, plastic bag and containers. Also stops sticking on stainless steel equipment, heating coils, etc.

Camie Co.
Circle 359 on Reader Service Card

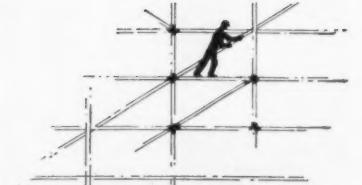
1 Truck Does Work Of 3

Jiffy-Lift installed on a truck rapidly loads and unloads heavy, bulky materials such as cement blocks,



bricks, pipe. It's a sturdy, hydraulic loader with 10,000 lb lift capacity. Self-propelled by gasoline engine. One man runs it. Easily installed or removed from truck.

Elberfield Mfg. Co.
Circle 360 on Reader Service Card



MORE adaptable built with "KEE-KLAMP"

SLIP-ON FITTINGS



In open area, around corners, low or high storage racks are easily built with "KEE KLAMP" Slip-on Fittings and ordinary pipe. "KEE KLAMP" storage racks are economical, can be designed for any load and to suit your floor space.



"KEE KLAMP" Slip-on Fittings are strong malleable iron, with set screws to lock pipe in rigid position. Allen wrench is only tool needed to assemble a "KEE KLAMP" structure.

We'll design "KEE KLAMP" structure to suit your needs without obligation.



WRITE FOR
CATALOG NO. K-25-D

KEE KLAMPS NORTH AMERICA LIMITED

1073 WILLIAM ST.

Buffalo 6, New York

CANADIAN ADDRESS:

P. O. Box 370, Station T • Toronto 19, Ontario
Circle 73 on Reader Service Card
MATERIAL HANDLING ENGINEERING



TAPEnology marks the way with colors that roll on dry!

At Anheuser-Busch, Inc., they make sure their Budweiser cases are kept "on the move" by clear indications of temporary storage areas with easily applied markings of "SCOTCH" Brand Lane Marking Tape No. 471. This colored plastic tape resists wear; won't fade or dry out; is ready for traffic immediately. Eight brilliant colors let you "color code" for storage zones, work areas, truck lanes, etc. Markings can be changed day-to-day if necessary; handy "SCOTCH" Brand Lane Marking Applicator M-77 makes it a quick, clean, one-man job!

Get the complete story on this modern and efficient method for lane and other floor marking from your "SCOTCH" Brand Tape Distributor. Or, write: 3M Co., 900 Bush Ave., St. Paul 6, Minn., Dept. IAG-110.

When tape costs so little, why take less than "SCOTCH" Brand?

"SCOTCH" is a registered trademark for the pressure-sensitive adhesive tapes of 3M Co., St. Paul 6, Minn. Export: 99 Park Ave., New York 16. Canada: London, Ontario.

MINNESOTA MINING AND MANUFACTURING COMPANY
... WHERE RESEARCH IS THE KEY TO TOMORROW

SCOTCH
BRAND



Circle 87 on Reader Service Card



ASSOCIATIONS

AMHS

The Subject of fork lift trucks was approached from all angles at the Cleveland Chapter's first meeting of the 1960/61 season. Paul Schreck of Moto-Truc described the evolution and application of the narrow-aisle electric truck. A. J. Whitney of Towmotor talked about that company's gasoline-powered narrow-aisle truck. John Erickson of Lewis-Shepard pointed out advantages of rider-type electric trucks. Frank Wier represented Clark Equipment with a talk about counterbalanced gas trucks. And John J. Rose of Propane Industrial Service, Inc. explained the safety and efficiency features of propane.

The role of the worker in material handling was explored at the Sep-



Poland



Merrill

tember meeting of the Denver chapter. Doctors David W. Merrill and Ronald Poland presented a psychological approach to material handling problems.

Los Angeles chapter won a double-header in the membership race. By increasing membership 25 percent, the chapter won the Grand National League A and Region VII championships.

Officers of the Northern California chapter for 1960/61 are: President and national director, Leo F. Delventhal; vice-president, John E. Sullivan; secretary, Dan E. Billings; treasurer, Howard H. Fisher. Directors who also serve as committee

chairmen are: Alvin C. Hamre, Frank Schurr, Clyde L. Jacobs, V. E. Dyckman, John M. Mustanich, J. R. Merry, and Stanley J. Bober. Special activities chairmen are Hiram D. Smith and Ellis H. Woolley.

MHI

The Index on the dollar volume of incoming orders reported by industrial material handling manufacturers in August was 131.33, using 100 as the monthly average for the statistical base year 1954. C. L. Fell, MHI president, reports: "The real test for the sales ability of our industry should occur in the fourth quarter of the year when capital expenditures are forecasted to decline from the pace set in the first three quarters of 1960."

According to Ellis Woolley, general chairman of the conference steering committee for the Pacific Coast Show, the sessions will be a joint project of three central California groups. Participants are the Northern California Chapter of AMHS and the Golden Gate and Central California Chapters of SPHE.

SPHE

September meeting of the Central Ohio Chapter included a tour of the Columbus Dispatch and Citizen-Journal publishing plant. Members had an opportunity to watch production of a daily newspaper, from article creation to packaging of newspapers.

Michael Racioppo was elected president of the New England Chapter. Vice-presidents are: Robert G. Ridley, Joseph Friedman (packaging), Harold T. Decot (material handling), Frank J. Kusiak, Jr.

(transportation), James S. Hardigg (education).

New board of directors of the Philadelphia Chapter included a planning committee: John Mount, Joseph Krager, R. F. Tettermer, William Scott, John Davidson. Other elected officials: G. G. Zappasodi (program chairman); Walter Glute (membership chairman). The following committee chairmen were appointed: Gladys Nattress (yearbook and roster); Joseph Krager (technical and educational); Joseph Myers (publicity); John Davidson (Christmas party).

MHEDA

A week-long course in material handling in chain store grocery warehousing will be held October 10 to 14 at the MHEDA National Training Center.

Some of the subjects on the agenda: transportation, unit loads, warehouse layout, order picking, shipping, inventory control, equipment selection and maintenance, receiving and shipping.

FBA

The following directors were re-elected to the Fibre Box Association: A. W. Dufrechou, Kohlman Box Co.; S. S. Davis, The Corrugated Container Co.; Robert D. Love, The Love Box Co.; John G. Kain, Star Box and Printing Co.

HMA

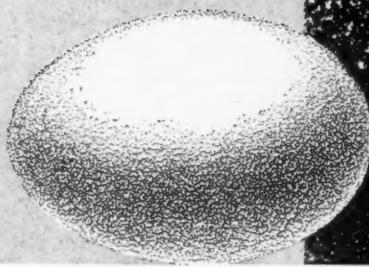
Officers of the Hoist Manufacturers Association Inc. are: Herbert W. Gledhill, Jr., president; Fred E. Rau, vice-president; Welden C. Miles, director; Raymond A. Davies, director; Edward J. Byrne, director.

FROM

EGGS

TO

INGOTS



If it has a surface, IME can help you make your mark

An egg. An ingot. Could any two marking surfaces be more different? Yet both, and thousands of surfaces in between are run-of-the-mill jobs with an IME imprinter.

The reason is simple: **IME doesn't make a standard model.** Each one is a custom job, tailored to all the customer's needs and his needs only. IME specialists sit down with you, discuss your operation, help you determine your requirements, then design the one method and machine that best meets them. Bags, boxes, cartons, cans . . . eggs, ingots, tablets, toys . . . you can imprint any surface . . . code, date or price any product with an IME-tailored machine. There's no better way to make your mark . . . boldly, clearly, quickly.

IME offers you a complete package: everything from self-contained marking systems to the precise inks that system needs. Write today for informative brochure. Dept. MHE.

Custom-designed marking equipment at standard cost

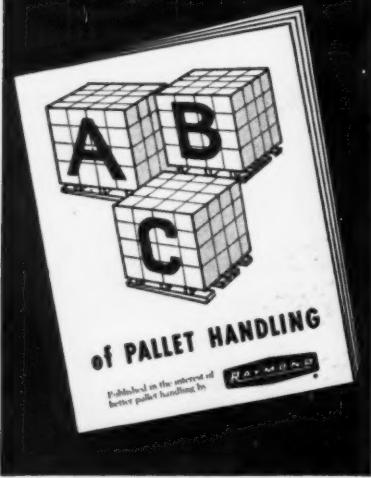
INDUSTRIAL MARKING EQUIPMENT COMPANY, Inc. / 655 BERRIMAN ST., BROOKLYN 8, N.Y.



Manufacturers of: "Whippet"® conveyor line marking device • #7 Auto-Printer® for knocked-down cartons and multi-wall bags • Rainbow coder®-imprinter attachment for marking flexible wraps • Flexopress — for instant drying printing on almost any surface, sheet or web.

Circle 69 on Reader Service Card

FREE



The ABC's of pallet handling digested into a new and useful "how to" handbook. Contains practical information: how to select, load and handle pallets; how to estimate pallet requirements; step-by-step load pattern diagrams; how to increase warehouse capacity up to 50%; facts about the RAYMOND trucks that made narrow aisles possible. Send for your copy today.

The RAYMOND CORPORATION
3312 Madison St., Greene, N.Y.
Send _____ copies "ABC's of Pallet Handling."

NAME _____ TITLE _____

COMPANY _____

STREET _____

CITY _____ STATE _____

Career Opportunities for Product Design Engineers—
Write RAYMOND Today!
Circle 104 on Reader Service Card

120

mhe INDUSTRY NEWS

Goodrich Elects P. W. Perdriau

P. W. Perdriau, general manager of B. F. Goodrich Aviation Products Division, has been named president of the company's Industrial Products Company.

Perdriau has been with the company since 1934. He was named head of the Aviation Products Division in 1956. He is also chairman of the board of Goodrich-High Voltage Astronautics, Inc., an associate company.

Clarke Floor Machine Affiliates with Studebaker-Packard Corp.

Clarke Floor Machine Company, of Muskegon, Mich., is now a division of Studebaker-Packard Corp. The transaction became effective in September.

Ernest Cooper, Clarke president said there will be no changes in policies, management, or in field personnel.

Clarke has two plants in Muskegon, and maintains a nationwide network of sales and service branches.

Hartman Co. Appoints Sales Executives

Calvin W. Hunter is the new sales manager for Hartman Metal Fabricators, Inc. He replaces Jerome L. Huff, resigned. Hunter formerly was



Selden



Hunter

associated with Material Handling Products Corp.

Chester J. Selden fills the newly-

created position of assistant general manager. Selden was formerly a material handling engineer with Parke, Davis & Co.

Obituary

Paul A. Fisher, an official of the Anaconda Aluminum Co., Louisville, Ky., and well-known for his work in the American Material Handling Society, Inc. died in early September.

At the time of his death, he was serving as co-chairman for the AMHS Technical Conferences sponsored by Region 4 at the MHI Central States Show.

Mr. Fisher joined AMHS in 1950. He served as treasurer, president, board chairman, and national director of the Falls Cities Chapter. He held the office of regional vice president, and served as co-chairman of the National Education Committee and as chairman of the National Chapter Development Committee. He also had been on the National Special Assignments Committee.

Since World War II, he had made two trips to Europe. One was to study techniques and equipment for roll grinding as related to the rolling of aluminum, and the other to study the aluminum industry generally.

Black Products Company Adds Sales-Engineering Personnel

The Black Products Company, Chicago, announces the addition of sales and engineering personnel in the Southern and Western territories. This is in line with their expansion plans for the Black Diamond line of valve bag packing equipment.

George H. Garrett was appointed Southern district manager, with headquarters at Irving, Texas. Harry N.

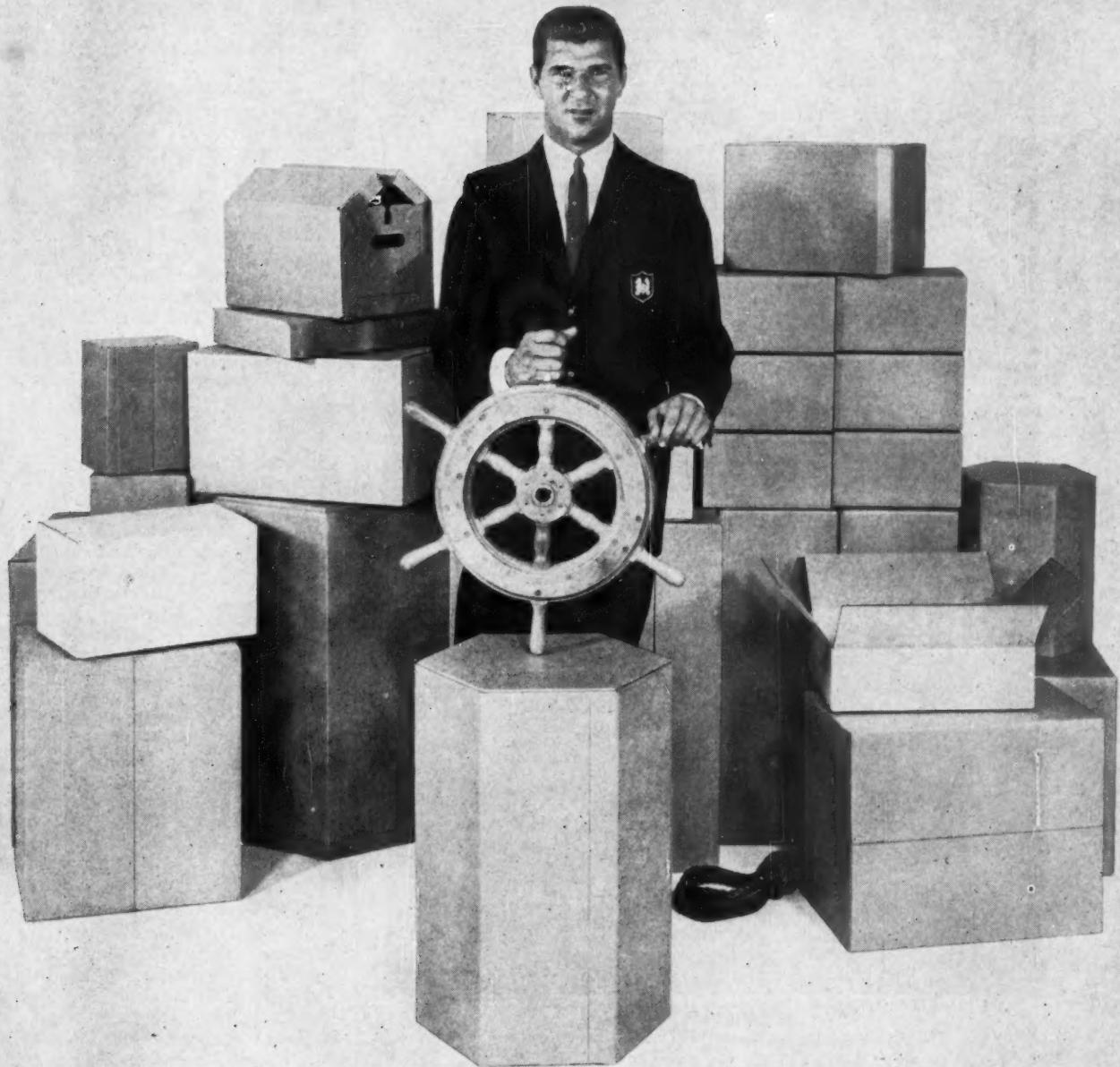
Continued on page 122

Circle 59 →

GAYLORD SAILS IN SEARCH OF PACKAGING DISCOVERIES

Gaylord's full crew of research specialists constantly seeks new packaging worlds. We explore every possibility, to assure you of a tight packaging ship with all costs battened down.

Want that kind of watch-stander looking out for you?
Then invite your nearby Gaylord Man aboard today.



CROWN ZELLERBACH CORPORATION
GAYLORD CONTAINER DIVISION



IN CANADA • CROWN ZELLERBACH
CANADA, LTD. VANCOUVER, B.C.

HEADQUARTERS, ST. LOUIS
PLANTS COAST TO COAST

Circle 78 on Reader Service Card

NEW LANSING STAKE TRUCKS



Completely redesigned Stake Truck for warehouse and factory. Made in three sizes for loads to 2000 lbs. Features flush corner pockets, reinforced steel corners, reinforced hardwood deck, ball bearing casters and four removable stakes.

PLATFORM TRUCKS

Wood or steel, smooth rolling for every need. Caster steer trucks in choice of models and sizes for loads to 6000 lbs.



HAND TRUCKS

Over 50 types for safe and easy one man handling of bags, barrels, cases or crates. Built for years of rugged service.



You'll find new operating economies with Lansing Trucks. Each is engineered for surplus strength and maximum maneuverability.

WRITE FOR LITERATURE AND SPECIFICATION DATA

02

Since 1881



BRANCHES
BOSTON
MINNEAPOLIS
PORTLAND

YOUR HEAVY WEIGHING EQUIPMENT CAN BE IMPROVED

Hook up Chatillon's new ISO-SEAL® legal weight crane scale to your heavy lifting equipment and you'll have the most accurate and efficient weighing system you can get. The load will be weighed as it's moved, saving time and money... and it will be weighed accurately (to 1/10 of 1% of capacity).

The ISO-SEAL® Scale is maintenance free — no oiling necessary — no fluids to replace. It is built and guaranteed for long accurate use.

This scale has been approved by States' Bureau of Weights and Measures as legal for use in trade.

NEW!



5 Capacities
from 6,000 lbs.
to 30,000 lbs.

Send for brochure and name of dealer nearest you today
JOHN CHATILLON & SONS
85 CLIFF STREET, NEW YORK 38, N.Y.



Manufacturers of Scales,
Force Measuring Instruments and
Precision Springs Since 1835

Circle 28 on Reader Service Card

122

INDUSTRY

NEWS

Bullard was named Western district manager, with headquarters at Inglewood, Calif.

144-Acre Proving Grounds Is Construction Show Site

Koehring Company's 1960 Construction Equipment Show was designed like a big construction job. Visitors from all over the US, Canada, and many foreign countries, saw some 40 machines in action.

There were excavators, cranes, drilling machines, road rollers, pavers, spreaders, trenchers, batching plants, drilling machines, and fork lift trucks.

Visitors watched the machines work in the same kinds of conditions they would meet on the job. Featured units included a truck crane with a 210-foot tubular boom-and-jib combination, a lift truck capable of hoisting a 3,000 lb load to 35-ft height, a highway paver which can lay a half-mile strip of concrete in a day, and a mobile concrete batching plant.

Bucyrus-Erie Co. Elects Executive Vice President

Eugene P. Berg has been elected executive vice president of Bucyrus-Erie Co., South Milwaukee, Wis.

Berg previously was employed as general manager of all Chicago operations of the Link-Belt Co. He had been with that firm since 1937.

A 1937 graduate of Purdue University, Berg later received a Masters Degree in Business Education from the University of Chicago.

Ensign Carburetor Moves

Ensign Carburetor Company, formerly located at Fullerton, Calif., is now a part of American Bosch Arma Corporation, at the American Bosch Division plant, Springfield, Mass.

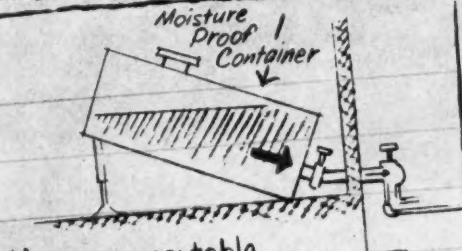
Ensign equipment will be handled as a separate line. Several of Ensign's management personnel will head up activities.

Robert P. Ensign has been appointed assistant to the works man-

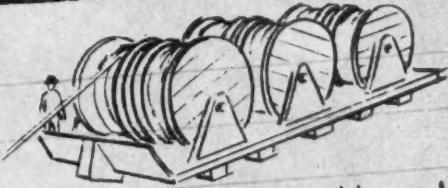
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MATERIAL HANDLING ENGINEERING

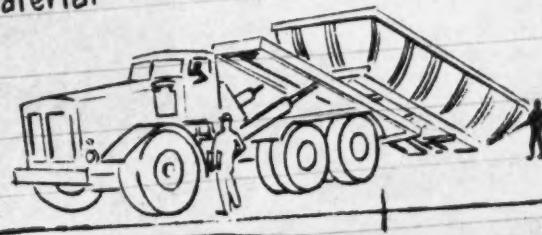
Materials Handling Ideas with the Dempster Dinosaur



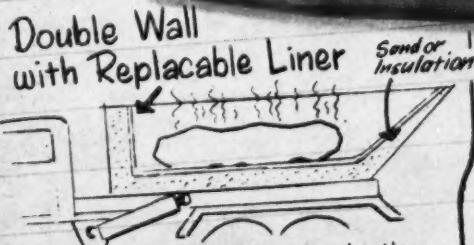
Use as a portable Hopper for temporary storage of wet or dry material



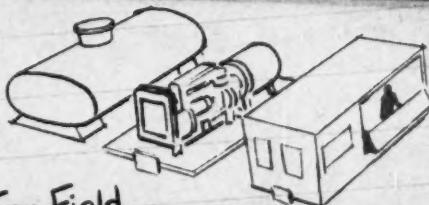
Use as a portable cable reel station - or for handling rolls of paper or steel



Shift heavy in-plant movements from rails to rubber with Dinosaur and 100,000 lb. capacity trucks... For slag... ingots... stone or chemicals.



Handle hot ingots and other materials with insulated containers.



For Field Operations Portable Offices, Tool Sheds, Generators, Fuel Tanks, Compressors etc. can be moved to the site by the Dinosaur.

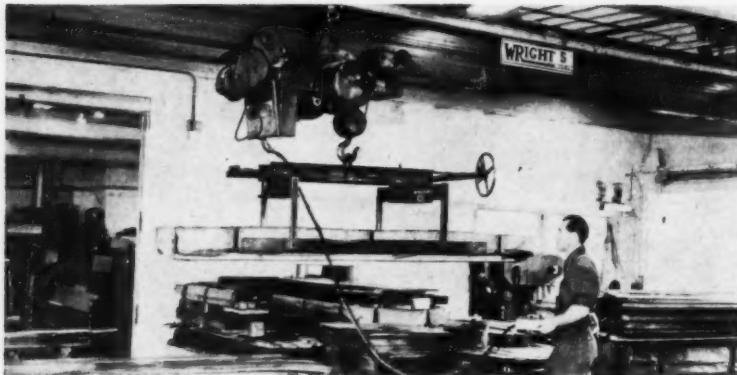
DEMPSSTER BROTHERS
offers a New Dinosaur
Brochure, Free
on Request

DEMPSSTER BROTHERS
Inc.
Knoxville 17, Tenn. Dept. MH-11



The
DEMPSSTER
DINOSAUR®

Circle 40 on Reader Service Card



**DOUBLE STEEL STOCK without
INCREASE in STORAGE SPACE with a
MANSAVER® GRAB**

Before installing an electric hoist, a two-way bridge crane and a Mansaver Grab, serving the entire length and width of the steel storage room, the company employing this system of handling never thought of stocking more than 250 to 300 tons at a time. Now they carry 750 to 800 tons. In addition, handling man-hours were cut in half.

Ask our District Representative into your plant to study your handling problem for presentation for our solution.

MANSAVER

INDUSTRIES, Inc.

3103 East St.,
New Haven, Conn.



Also Manufactured in England by George W. King Co. and in France by Ets. Dujardin et Cie.

PLANNED maintenance pays off!



Hobbs INDUSTRIAL HOUR METERS

- Plan maintenance on operating hours — for superior performance and maximum utilization.
- Set up a factual basis for rental and leased equipment . . . for buying and selling.
- Time ALL your equipment: d-c hour meter for engine or battery-powered units . . . a-c hour meter for line-powered equipment.
- Be sure with a Hobbs true electric timing instrument — no revolution counter can do the job!

Distributors in Principal Cities

WRITE FOR CATALOG 600

John W. Hobbs Corporation
A DIVISION OF STEWART-WARNER CORPORATION
2061 YALE BLVD. SPRINGFIELD, ILLINOIS

Circle 65 on Reader Service Card



INDUSTRY

NEWS

ager in charge of Ensign manufacturing operations, and Ralph G. Abbott has been appointed chief engineer for Ensign products.

A. John St. George is Ensign product manager in the Commercial Sales Division of American Bosch Arma Corp.

**Columbus McKinnon Appoints
Eugene S. Davidson Sales Mgr.**

Eugene S. Davidson has been appointed Eastern regional sales manager for the Conveyor Division of the Columbus McKinnon Corporation.

He has specialized in the design and application of material handling systems for industrial plants and warehouses. He will headquartered at Mountainside, N.J.

Begin Adhesive Production

Production of a complete line of industrial adhesives has started at the new Morningstar-Paisley, Inc. plant in Atlanta. Plant personnel include Lee Kritzer, regional manager, and Milton F. Lenz, production manager.

**Minneapolis-Moline Adds
New Division Sales Manager**

Bert F. Whitbread has been appointed sales manager of the newly organized Construction Equipment Division of Minneapolis-Moline Co.

Whitbread has had 25 years experience in construction equipment sales and service. His most recent position was with the J. I. Case Co. as Eastern division sales manager. He joined Case in 1956.

**Name Manager for
Distributor Sales**

William A. Cooper has been named to the newly created post of manager of distributor sales for The Goodyear

Continued on page 126

How 3 National Fleets save Time and Money

with the **WATSON**
Hide-A-Gate

HIDE-A-GATE is the powered elevating tailgate that hides away under the bed when not in use. It gives you these important advantages:

1. You can back up tight against a dock
2. You don't have to lower the gate to open van doors
3. It's easier to park in tight spots—no gate overhang or projections.

And, of course, you get all the advantages of a fast, safe, reliable power gate for ground or curbside loading—at a touch of the control lever.



SHERWIN-WILLIAMS CO. find parking much easier on store deliveries with Hide-A-Gate—it folds under the bed with no overhang or projections until ready for use.



PACIFIC INTERMOUNTAIN EXPRESS shows here how easy it is to dock load with a Hide-A-Gate. No need to lower the gate to open doors, or to run fork lifts over the gate platform—just back in tight to the dock and load or unload.



CONSOLIDATED FREIGHTWAYS' Hide-A-Gate gives this new van the advantage of power gate for ground or curbside loading—yet no gate interference when dock loading.

Hide-A-Gate handles loads to 1,200 lbs., is easy to install on 1 1/2 ton and larger trucks. Electro-hydraulic (6v or 12v) and power take-off models available. Why not get the facts now—write for literature, prices.

WATSON

Circle 133 on Reader Service Card

22

H. S. WATSON CO.

1316 67TH STREET DEPT. 120
EMERYVILLE, CALIFORNIA
1606 LASKEY ROAD
TOLEDO 12, OHIO

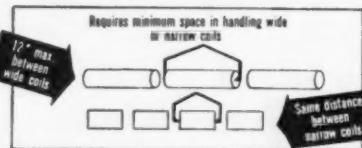


Handling Coil Stock?

CHECK THESE C-FLIFTER ADVANTAGES

- 1 Lifter handles wide range of coil sizes
- Requires minimum of only 10" to 12" between piles —saves storage room
- 1 man operation — eliminates hookers
- Positive grip on coil — no damage to material

• C-F Coil Lifters are saving time and labor in many plants and warehouses because they can pick up, carry and set down a coil of steel faster and safer than any other method. Infinite jaw



openings permit handling a very wide range of coil widths... carrying legs open fast, stay open until operator closes them on coil. Narrow legs require minimum space between piles — a space saving advantage. Made in motorized models for crane cab or pendant operation as well as manual types with chain wheel, in capacities from 3 tons up. Powered Rotating Heads available. Opening ranges to suit your requirements. Write for illustrated Bulletin.



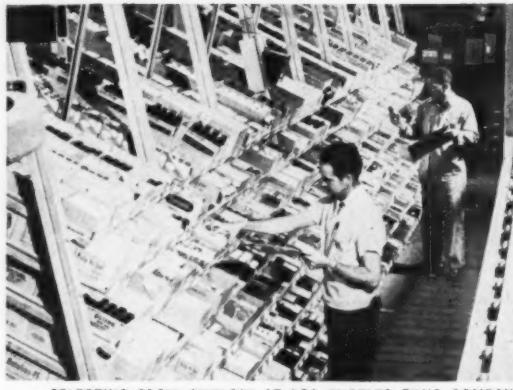
CULLEN-FRIESTEDT CO.

1320 South Kilbourn Avenue • Chicago 23, Illinois

Quik-Pik® SLASHES ORDERPICKING COSTS!

LIVE STORAGE — GRAVITY SHELVING

- Cuts Picking Distance
- Segregates Picking — Restocking
- Saves Space
- Speeds Selection
- Rotates Stock
- Tightens Inventory Control
- Adjusts to Changes



SELECTING FROM QUIK-PIK AT LOS ANGELES DRUG COMPANY

Now... both ROLLING TRACK (Rolla - Trak)

and

SLIDING TRACK (Easi - Flo)

Quik-Pik® does the trick!

Send for new 12 page, fully illustrated manual which shows how you can cut costs by cutting order picking frontage, cutting order picking TIME and MOTION and making full use of order picking frontage.



**NORTH AMERICAN
EQUIPMENT CORPORATION**
200 KEEN STREET, PATERSON, N.J.

Circle 99 on Reader Service Card

INDUSTRY

NEWS

Tire & Rubber Company's Industrial Products Division. He will headquartered in Akron. Cooper has been with the company since 1936.

Caterpillar Names Advertising Manager

Charles B. Leber has been appointed advertising manager of Caterpillar Tractor Co. He succeeds



Leber



Foster

Burt M. Powell, who retired September 1.

Replacing Leber as manager of the Sales Division of the Defense Products Department is Frank S. Foster.

Leber joined the company as a college graduate trainee in 1947. Foster is a Caterpillar employee since 1945. Powell had been advertising manager of the company since 1953.

Continue Expansion Program

A new corrugated box plant has been added to its established wire-bound plant at Denville, N.J. by General Box Company.

This is the fourth corrugated box plant opening that the company has announced since early last spring.

Joy Mfg. Co. Promotions

George R. Fox, works manager of Joy Mfg. Co. plants in Franklin, Pa. since 1953, has been elected vice president of manufacturing, Joy International, S. A.

C. A. Patten has been named works manager of the company's New Philadelphia, Ohio plant. Jack K. Adams, formerly chief industrial engineer, replaces Patten as manufacturing manager, Franklin plants.

Clark Wins Contract Award

The Industrial Truck Division of Clark Equipment Company has been awarded a \$3.6 million contract by the U.S. Army Quartermaster Corps

Continued on page 128



Problem: Premature rim separation
Solution: Monarch solids made by new
***Monolok Process**

CASE #27

**CEMENT
BLOCK
PLANT**

Problem: Standard solids and special urethane tires were failing in up to three months time due to rim separation.

Condition: Tires were run on edges in an autoclave under excessive heat and usually in an overloaded condition.

Test Results: Monolok bonded tires were still in service after five months and are still running.

CASE #44

**STEVEDORING
COMPANY**

Problem: Tires were separating from rim after six months use.

Condition: Standard solids were exposed to severe punishment by driving trucks at full speed over railroad spurs and dock board corners.

Test Results: Monolok treated tires lasted up to nine months — 50% increased life.

CASE #56

**MACHINE
SHOP**

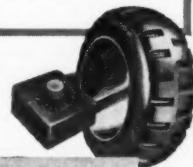
Problem: Tires were separating from rim after two to four months use.

Condition: Tires were exposed to floors littered with steel chips and shavings.

Test Results: Tires although riddled with steel ran eight to twelve months before being replaced.

*** MONOLOK**

is Monarch's trade-name for a revolutionary new process for permanently bonding rubber to metal.



**THE
MONARCH
RUBBER COMPANY**

210 Lincoln Park
Hartville, Ohio

- 7-225 General Motors Bldg., Detroit, Mich.
- 2353 No. California Ave., Chicago, Ill.
- Western Warehouse, Reno, Nevada

If metal scrap, chemicals or excessive heat are the cause of premature rim separation in your plant let these facts speak for themselves. Now you can reduce replacement costs, truck downtime and driving hazards. Monarch engineers have solved the problem of separation by combining an improved natural rubber stock . . . compound T-5100 . . . with an advanced chemical bonding operation. Insist on Monarch MONOLOK.

Circle 89 on Reader Service Card

November 1960

10089-MR



FOR LOW COST MATERIAL HANDLING



use...
BIGELOW-GARVEY COLLAPSIBLE TIGHT-CORNER PALLET BOXES



THEY'RE REUSABLE

- Economical
- Safe and Neat
- More Convenient
- Quickly Assembled
- Handles up to 5000 lbs.
- Collapsible When Not in Use
- Specially Made For Your Needs

EXPENDABLE

Over 33 Years Material Handling Experience
 MISS. ARKANSAS GEORGIA WISCONSIN MINNESOTA KENTUCKY
 BIRMINGHAM
 General Office and Laboratory
 Write for complete details and prices to...
BIGELOW-GARVEY
 lumber company
 326 W. MURON STREET • CHICAGO 10, ILLINOIS

INDUSTRY NEWS

for 195 special rough terrain fork trucks of 10,000 lbs capacity. They will be used at Army bases in this country and abroad.

Appointed Sales Manager

Larry L. Jones has been appointed to the newly created position of sales manager-trailers for the Sparton Railroad Equipment Division, Sparton Corp.

Large Pan Feeder Completed

Construction of one of the largest pan feeders ever built has been completed by Taylor-Wharton Company, Easton, Pa.

The manganese feeder, 90" wide, 45' long, weighs 165,000 lbs. Company says it can deliver 912 tons of ore an hour at the rate of 20 feet per minute. It was ordered by the Robins Engineers Division of Hewitt-Robins, Inc., for a primary crusher station in Chile, South America.

Case Company Appointments

A. Earl Lee has been named marketing coordinator for the J. I. Case Company. He will coordinate all phases of the Case marketing operation, including product development and market research.

For the last 3 years, Lee has been with Massey-Ferguson, Toronto. He served as a member of the Corporate (International) Marketing staff and as general manager, Marketing and Economic Research, North American operations.

In other company appointments, T. J. Garbeff heads the newly created Central Parts Division. He has been with the company since 1949. Succeeding Garbeff is Frank Lipari, named manager, of the Stockton plants.

Set New Records

The Utility Division of J. I. Case Company, expects its domestic retail sales this year to set new records for growth in the industry.

Sales figures for 1960 are expected to increase 54% over 1959. The divi-

Continued on page 130

OPEN ANY FREIGHT CAR DOOR IN 20 SECONDS OR LESS with the



Write for complete details and railway products catalog

The Nolan Co., 110 Pennsylvania St., Bowerston, Ohio
 Circle 97 on Reader Service Card

128

ONLY \$45.00
 F.O.B. Bowerston

Signode Adjusta-Pak container telescopes in all 3 dimensions



- Saves time and money
- Eliminates various sizes of master containers
- Speeds packaging of mixed lot shipments
- Improves product protection

New booklet shows how Adjusta-Pak works, shows how Adjusta-Pak is used to package textiles, machinery, sheet steel, paper products, wood doors. Send for your free copy of this way to new packaging savings today.



SIGNODE STEEL STRAPPING CO.

Dept. SP, 2618 N. Western Avenue, Chicago 47, Illinois
 Offices Coast to Coast
 Foreign Subsidiaries and Distributors World-Wide
 In Canada: Canadian Steel Strapping Co., Ltd., Montreal • Toronto
 Circle 116 on Reader Service Card

MATERIAL HANDLING ENGINEERING

Circle 81 on Reader Service Card



KEEP OUT RAIN - SNOW - COLD

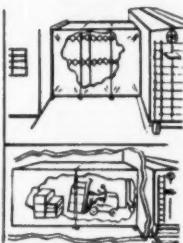
- Made of heavy flame and water-resistant canvas or rubberized nylon.
- Sturdy frames and hardware.
- Scissor arms permit folding.
- Tailored to your loading dock.

Mamaux Folding, Loading Dock Covers save you many times the cost in preventing merchandise damage in rainy, cold or hot weather.

Folding Canvas or Asbestos Welding Screens. Stock sizes and specials.

Tarpaulins ... 100,000 Sq. Ft. in Stock

Write us for all your needs ... industrial, commercial, private



A. MAMAUX & SON

120 BOULEVARD OF THE ALLIES
PITTSBURGH 22, PA. PHONE COURT 1-3500

• DEALER TERRITORIES OPEN •



Impact-O-Graph is the key to *all* problems concerned with the movement and shipping of goods.

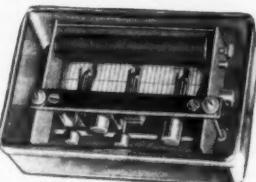
Further than that, it can provide the guide for proper product design in terms of the ultimate *use* of the product.

Thus Impact-O-Graph gives "Damaging Testimony" as to the extent to which the product stands up under normal "use" conditions—plus its ability to withstand shipping shocks to which it might be subjected.

Write *now* for the new brochure telling the whole amazing story.

NSTC approved. Leasing arrangements available.

MODEL XS



1800 Euclid Avenue • CLEVELAND 18, OHIO • Cherry 1-8838

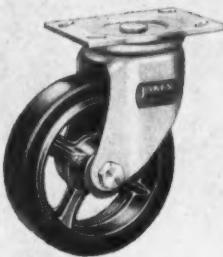
Circle 68 on Reader Service Card

November 1960

Circle 72 on Reader Service Card

JAKES

ROLLESE CASTERS...PUSHEASE WHEELS
For Lowest First Cost, Lowest Last Cost



ROLLESE CASTERS:

Double ball races,
easy swiveling,
extra strength.



PUSHEASE WHEELS:

Super tough, easiest rolling rubber tread, roller bearings.

Write for free WHEEL & CASTER CATALOG.

Some dealer territories open

JAKES FOUNDRY COMPANY

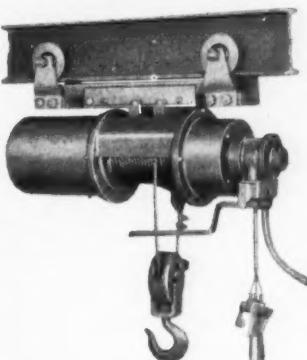
Established 1891

2800 Charlotte Avenue

Nashville 9, Tennessee

Worth Looking Into ...

DETROIT AIR HOISTS



Ask for
Bulletins
860, 861, 862

Push Button
Control
Other
Modern
Design
Features

Consult us on Air Hoists for every
type of application

DESIGNERS AND MANUFACTURERS
FOR NEARLY SIXTY YEARS

DETROIT HOIST & MACHINE CO.

8215 Morrow Street • Detroit 11, Michigan

Designers and Manufacturers Since 1905

Circle 42 on Reader Service Card

129

Circle 96 on Reader Service Card



3 of 22 DESIGNS

TYPE 20

Four Wheel Mounted. Double Nose-Over.

TYPE 22

Double Nose-Over and Adjustable Power Feeder.

TYPE 19

Caster Mounted. Power Feeder. Double Nose-Over. Adjustable At Each End

- Aluminum or Steel
- Electric or Gasoline
- Belt Widths 8" to 24"
- Lengths 4' to 40'

IMPORTANT! Every Cost-Cutter is Set Up and Test Run in our plant to assure Proper Performance.

Send for BULLETIN 103

NEW LONDON ENGINEERING CO.

Phone 1000 Dept. MHE
NEW LONDON, WISCONSIN

INDUSTRY NEWS

sion was created 2 years ago to offer a line of medium size tractors and equipment for the small contractor and builder.

Open Research Center for Air Conveying

Flo-Tronics, Inc., Minneapolis manufacturer and designer of air conveying systems and process controls, has opened a research laboratory. It's designed for full-scale testing of air conveying systems.

Named Sales Manager

Otto Svoboda has been named sales manager of The Fairfield Engineering Company's Unit Handling Division.

Appleton Electric Co. Names Mauritz to Head Post

Murray J. Mauritz has been appointed vice president in charge of

manufacturing for the Appleton Electric Company, Chicago.

He joined the company in 1948 as production control manager. For the last three years, he was works manager.

District Sales Manager

Donald J. Wallace has been named district sales manager for the Coffing Hoist Division of Duff-Norton Co. He will headquartered in Chicago.

Disogrin Appoints President and General Manager

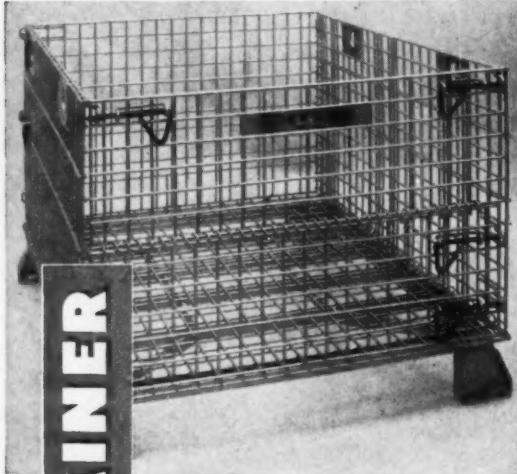
Bernard S. Appleton has been appointed president and general manager of Disogrin Industries, Inc.

Prior to his new position, he was the chief engineer and assistant general manager of Greer Marine Corp.

He has also served in engineering and managerial capacities in the structural and hydraulic industries. His experience in these fields includes as



Appleton



WIRE-TAINER

STORING ★ HANDLING ★ SHIPPING

- Virtually indestructible—electro-welded steel rod construction
- Saves money coming and going—easy to lift and stack, folds flat to save on return trips
- One and two-ton capacities
- Side or end openings
- Available with eyes for crane lifting, increased side heights, castor plates and casters, horizontal and vertical dividers

FREE LITERATURE describing all WIRE-TAINER advantages. Drop us a line.

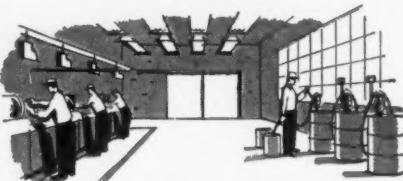
SPRINGPORT STEEL PRODUCTS COMPANY

Springport, Michigan

Circle 118 on Reader Service Card

130

SAFER HANDLING of INDUSTRIAL LIQUIDS



Eliminate in-plant accidents caused by slick floors and spilled inflammables! This TOKHEIM Hand Pump, for use on drums or skid-tanks, has 8' hose—or spout outlet—prevents dangerous, wasteful slopping of oils and many other liquids. Speeds production. Pumps 20 gallons per 100 strokes. Ask your dealer, your Tokheim representative or write for list of liquids.



General Products Division

TOKHEIM CORPORATION

DESIGNERS AND BUILDERS OF SUPERIOR EQUIPMENT SINCE 1901

166 Wabash Avenue

Fort Wayne 1, Ind.

Subsidiaries: Tokheim International, A.G., Lucerne, Switzerland; GenPro Inc., Shelbyville, Indiana; Tokheim of Canada, Ltd., Toronto, Ontario

Circle 125 on Reader Service Card

MATERIAL HANDLING ENGINEERING

sociation with Greer Hydraulics, Inc., and the American Bridge Division of the United States Steel Corp.

Named General Sales Manager

Allen A. Deverick has been appointed vice president in charge of sales for the Baughman Manufacturing Co.



Deverick

He was regional sales manager for Baughman at Tulsa, Oklahoma, covering a territory from Georgia to Montana.

Formerly, he was in sales with Pure Oil Company, Compton, Inc., and the Sunray Mid-Continent Oil Co.

Transfer to Lima

Construction Equipment Division of Baldwin-Lima-Hamilton Corp. has moved all manufacturing from the Madsen Works, LaMirada, Calif., to the Lima Works, Lima, Ohio. Now, all asphalt plants produced by B-L-H will be made at Lima as well as cranes, shovels, and other handling machinery. The move eliminates duplication of manufacturing.

Elected New Board Members

Frederick Chorman and Henry Meyfarth have been elected to the board of directors of May-Fran Mfg. Co.

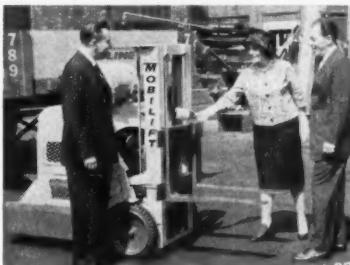
In other company appointments, Frederick F. Awig and Gilbert W. Hagerty have been named regional sales managers.

turers of marking equipment, roll tickets, and labels, has started construction of a 98,000 sq ft plant on a 12-acre site in Philadelphia. The new plant, scheduled for January completion, will double the 48 year old firm's facilities.

Opens Atlanta Office

American Viscose Corp., Philadelphia, has opened its second district sales office in the Southeast for its new Industrial Packaging Department.

Named to the post of district manager at the Atlanta office is Herbert C. Schafer.



FIRST FORK LIFT TRUCK built by the Minneapolis-Moline plant undergoes a champagne christening. Mrs. Stanley Zucker breaks the bottle on the mast. Stanley Zucker (left) is the truck dealer. Watching the ceremony is Jack B. Trussell, Mobilift sales manager.

Start Construction

The Soabar Company, manufac-

Howard Named Braun Service Manager

Alfred Howard has been named service manager for the Robert H. Braun Company, Pico Rivera, Calif., material handling equipment distributor. He has been with the company for the last 13 years.

PCA Acquires Large Plant

Packaging Corporation of America,
Continued on page 132

REMOVE COILS FROM PALLETS QUICKLY & EASILY

- Safe
- Labor-Saving
- Efficient
- Won't Damage Material
- Self-Contained
- Automatic
- Portable

Sizes to handle loads from 3,000 to 40,000 pounds.
Prices start at \$2000.



Fork truck sets palletized coils on bed of cradle.



Cradle tips backward as base rotates.



Cradle nears end of 90° backward tip as it is finishing its 180° rotation.



Coil now off pallet, face truck and are ready to fork.

turnover® cradle

A Product of LA DEAU MANUFACTURING COMPANY
2702 San Fernando Road, Los Angeles 65, California
Telephone CAPitol 2-8108

Circle 79 on Reader Service Card

November 1960

NEW FAS-LOK STORAGE RACK



- ONLY 2 BASIC PARTS...QUICK ERECTION
- NO WEDGES...NO BOLTS, NUTS, OR TOOLS REQUIRED
- SAFE...RUGGED...COMPLETELY ADJUSTABLE
- Easy access — front or rear.

FAS-LOK Racks can be quickly assembled into unlimited combinations of height, length, and shelf opening. Rigidly braced end frames, in standard heights from 5' to 22' 6", have slots punched in uprights on 3" centers. Horizontal runners have hookplates at each end. Each hookplate has two tapered ears which fit slots of upright (inset). To assemble FAS-LOK Racks, ears are set into the wedge-shaped slots on upright and a tap on horizontal runner drives ears down, seating them securely in a wedging action to produce a rock-solid rack. Can be used to store any material—Pallets, Skids, Rolls, Bulk storage, etc.

Horizontal runners available in lengths to 20 ft.; End Frames in depths from 2' to 5'. End Frames made in capacities to 40,000 lbs.

Write for Catalog



CHICAGO TRAMRAIL CORPORATION

1322 S. KOSTNER AVENUE, CHICAGO 23, ILLINOIS

Circle 37 on Reader Service Card

131

NO Relays
Controls
Moving Parts
WITH A
La Marche
FULLY AUTOMATIC
BATTERY

RechargeR
OVER
80 TYPES

AVAILABLE

WALL-MOUNTED
FLOOR-MOUNTED
TRUCK-MOUNTED
BATTERY-MOUNTED

18,000 In Use

FOR ALL DATA—

La Marche Mfg. Co.
3955 25th Ave., Shiller Park, Ill.
Gladstone 5-8855

INDUSTRY NEWS

Evanston, Ill. has purchased a 300,000 sq ft former H. J. Heinz Co. plant in Berkeley, Calif., for \$1.8 million.

The move is the company's first manufacturing operation in its West Coast market area. It will expand by one-third its output of molded pulp products.

Bostitch Appoints General Manager

M. Claude Schuler has been appointed general manager of the Bostitch Stapling and Stitching Division.

He most recently served as national sales manager. In his new position, he will be in charge of all the operations concerning the Stapling and Stitching Division, the largest division in the company.

Schuler joined the Bostitch head-



Schuler

quarters staff early in 1958. Prior to that, he managed the Bostitch-Atlanta, Inc. sales branch in Atlanta, Ga., for more than 5 years.

Elected to the Board

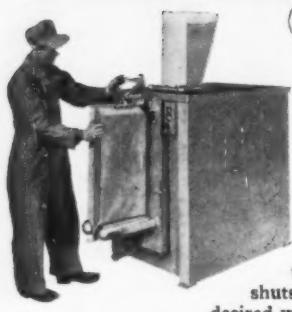
Alfred M. Esberg has been elected to the Board of Greer Hydraulics, Inc. He also has been named chairman of the newly established executive committee, and has been appointed general manager of the company.

Faultless Promotes Three in Caster Sales Expansion

Promotions for three members of the Faultless Caster Corporation's sales organization have been announced by J. R. Stallings, caster sales manager.

J. W. Allen has been advanced to sales representative for the Cleveland territory. D. Jack Reeves succeeds Allen in the West Coast district office in Los Angeles. Robert J. Brainard, who has been a sales service representative at company headquarters in Evansville, Ind., has been appointed sales representative in the newly created Pittsburgh territory.

NEW... AIRPAC METHOD Cuts Bagging Costs!



CODDINGTON

AIRPAC **Bag Packer**

FILLS AND WEIGHS

Revolutionary new compressed air method—no moving parts—packs powdery materials in valve bags... shuts off automatically when desired weight is reached.

Small spout on economical AIRPAC fits popular size valve in bags... keeps bags clean... eliminates costly tying or bag closing equipment.

-----FILL OUT AND MAIL TODAY-----

E. D. CODDINGTON MFG. CO.
5080 N. 37th Street, Milwaukee 9, Wisconsin

Please send me facts on the new AIRPAC Valve Bag Packer.

MY NAME.....

COMPANY.....

ADDRESS.....

CITY.....

ZONE..... STATE.....

YOUR GOOD PRODUCT
DESERVES TO BE SHIPPED
with THE PROPER MARK



MARKING RULE 6 says:

freight must be stenciled or otherwise durably and plainly marked.

DURABLY means in a durable manner; lasting in spite of hard wear or frequent use. (You get durability with D-B ROL-IT-ON stencil inks.)

PLAINLY means easy to read. The marking should be as large as possible. (There is a D-B stencil machine in a letter size to meet your every marking need.)



FOR FURTHER
INFORMATION
WRITE...



DIAGRAPH-BRADLEY INDUSTRIES Inc.
P. O. BOX 269 HERRIN, ILLINOIS

DISTRIBUTORS IN ALL PRINCIPAL CITIES



**Robertson Appointed
Miami District Manager**

George C. Robertson has been named manager of the Miami district for P & H construction and mining equipment manufactured by Harnischfeger Corp. of Milwaukee.



Robertson

He succeeds Jack E. Laffey who recently became regional manager for the entire Eastern division. Before joining Harnischfeger, Robertson served as Florida representative for J. I. Case Co.

New Hartman Plant

Hartman Metal Fabricators, Inc., formerly of Rochester, N.Y., have moved to larger quarters in Waterloo, N.Y. The new plant more than doubles production space and capacity.

**Distributor News
And Company Reps**

Maco Industries, Inc. named Erwin M. Gross Eastern regional man-

Continued on page 134

NOW YOU CAN LIFT and DUMP ANY CONTAINER!

Dumping standard drums, barrels, boxes and bags is a cinch!

MORE IMPORTANT, no matter what size, shape or type container you use to process free-flowing material — even special in-plant containers — **ESSEX** can supply the necessary unit for dumping or work-positioning.

ESSEX Dumpers are flexible in design. They can be engineered to suit your individual requirements. For the safe, reliable, economical way to lift and dump (or position) material in any container . . . **CALL UPON ESSEX FOR THE ANSWER.**

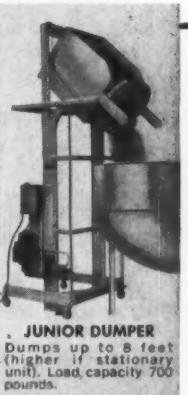
SEND FOR NEW 8 PAGE
INFORMATIVE CATALOG #59

ESSEX CONVEYORS, INC.

Dept. MH, 101 Golden St., Newark 3, N.J.
In Canada: Griswold Engineering, Ltd.,
Montreal and Toronto



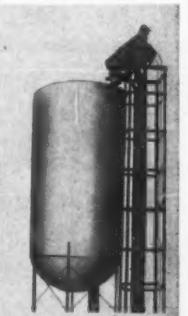
HYDRO-DUMPER
Dumps up to 4 feet
(higher if platform
mounted). Load capacity
in excess of 6000 pounds.



JUNIOR DUMPER
Dumps up to 8 feet
(higher if stationary
unit). Load capacity 700
pounds.



SENIOR DUMPER
Dumps up to 20 feet.
Load capacity in excess
of 4000 pounds.



VERTICAL DUMPER
Dumps to any practical
height. Load capacity in
excess of 4000 pounds.



—engineered by the builders
of the Vanguard Earth
Satellite Sphere

COMPARE THESE IMPORTANT FEATURES:

- ✓ Exclusive, rugged forged ends on one-piece curb
- ✓ Full length hand grip for safe handling from any position
- ✓ Yellow lane markings on all boards
- ✓ Heat treatment after welding for longer life

Compare all the B & P features! Write today for the fact-packed B & P Dockboard folder.

60-MH-5



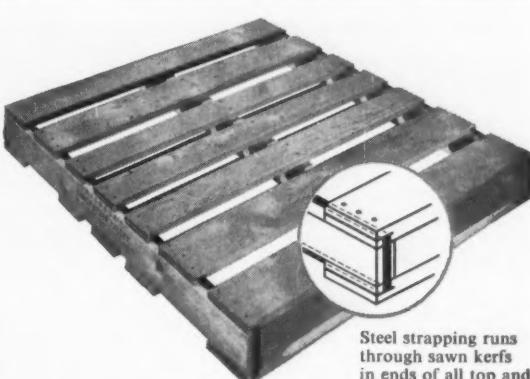
BROOKS & PERKINS, Inc.

1938 WEST FORT STREET • DETROIT 16, MICHIGAN

AMERICA'S LARGEST MANUFACTURER OF MAGNESIUM ASSEMBLIES

Circle 18 on Reader Service Card

November 1960



Steel strapping runs
through sawn kerfs
in ends of all top and
bottom boards.

New Super-Strip Pallet Lasts More Than Twice as Long

- Reinforced with special steel strapping
- More than doubles pallet life
- Prevents racking—reduces automatic
palletizing machine downtime
- Two or four-way entry

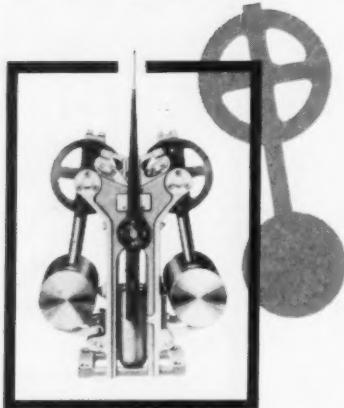
Use-tested. Strength proved in exhaustive tests. Write for additional information including name of licensed Super-Strip pallet manufacturer near you.

Sponsored for Wood Pallet Manufacturers by
SIGNODE STEEL STRAPPING CO.
Dept. SP, 2618 N. Western Avenue • Chicago 47, Illinois
Offices Coast to Coast
Foreign Subsidiaries and Distributors World-Wide
In Canada: Canadian Steel Strapping Co. Ltd., Montreal • Toronto

Circle 115 on Reader Service Card

Circle 41 on Reader Service Card

HEAVYWEIGHTS!



DETECTO PENDULUMS

are the heaviest in the industry. This means longer, more accurate scale life.

Write for information on full line of industrial weighing equipment from 1/100 oz. to 100 ton:

DETECTO SCALES, INC., Dept. MH-5
540 Park Ave., Brooklyn 5, N.Y.

IN CHILLY BLASTS...



OR POURING RAIN...

is your LOADING DOCK inside... or outside?

There's a big difference... in fuel costs... in employee morale... in productivity of workers... in absenteeism due to colds or accidents... in protection of merchandise.

Only DAZZO Dock Shelters provide quick and full protection for dock operations in bad weather. Less than full protection is merely money wasted!

DAZZO Dock Shelters adjust themselves automatically to different dimensions of railroad cars or trucks. They expand in seconds by gravity, without use of springs. They retract out of the way when not in use.

Save money and grief... write for the facts about DAZZO Dock Shelters today!



DAZZO PRODUCTS, INC.

532 Park Ave., Brooklyn 5, N.Y.
ULster 5-6641

Circle 39 on Reader Service Card

INDUSTRY NEWS

ager. His headquarters is in New York City.

Harnischfeger International Corp., S. A. is making additional technical information on heavy industrial equipment available in the Mexico and Central American areas. They've established a new Mexico City office.

Industrial Paper Sales Division, Crown Zellerbach Corp., has promoted **Lloyd F. Scott, Jr.** to district sales representative, N.Y.

Industrial Truck Division, Clark Equipment Co. named **Daniel Equipment, Inc.** Jacksonville, Fla., as a sales and service dealer. Sales territory consists of 23 counties in Northern Florida.

Unit-Coles has named **Handling Equipment Co.**, Minneapolis, as dealer for its cranes in Minnesota, North Dakota, and Western Wisconsin.

Merrick Scale Mfg. Co. appointed the **R. A. Roosevelt Company**, La Mirada, Calif. as Southern California sales representative.

Yale Materials Handling Division, The Yale & Towne Mfg. Co. has appointed the **Western Machinery Co.**, Salt Lake City, Utah a representative. Area includes Utah, Western Wyoming, Southern Idaho, and Northeast Nevada.

American Viscose Corporation, Philadelphia, has named **Blake, Moffitt & Towne**, San Francisco, as a West Coast distributor. The firm will handle the special cord strapping made by American Viscose.

C & D Batteries named **David C. Gipson** sales representative in the Houston, Texas area.

CLASSIFIED ADVERTISING

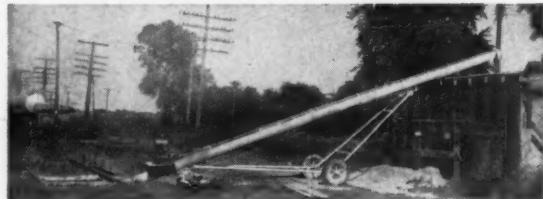
Rates: Cost of all ads in this section is \$20 for the first inch and \$15 for each additional inch or fraction. Rates for display ads in this section will be sent on request. All classified advertising is payable in advance.

Help Wanted

REPRESENTATIVE WANTED in your territory. From your desk you can earn a substantial addition to

Baughman Model Q-51C

PORTABLE SCREW CONVEYOR ...



... makes your unloading problems disappear at a ton-a-minute rate!

The Baughman Model Q-51C Hopper Car Unloader provides high-speed handling for grain, sand, lime, cement, stoker coal, chemicals, fertilizer and other free-flowing bulk materials. 9" screw conveyor handles up to 60 tons per hour. Connects directly to car discharge hoppers, eliminates need for an extra under-track unit. (Special box car unloading adapters also available.)

Conveyor lengths 35 to 50 feet; elevation controlled by hand crank. Gasoline or electric powered.

Write for illustrated bulletin.

Better service through better engineering.
Service and parts from 200 dealer branches.



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MANUFACTURING CO., INC.

315 Shipman Road, Jerseyville, Illinois

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MATERIAL HANDLING ENGINEERING

your income. Only written contracts with your clients! Write for particulars and further details to VKK-Office, Vienna 66, P.O.B. 128, Austria.

REPRESENTATIVES WANTED

Experienced Material Handling Representatives wanted to sell a line of precision built racks including conventional, stacking, lumber, single tier, cantilever, tire racks etc. Exclusive territories open in the South, Southeast and Mid-South. Write giving experience, lines carried and area covered to Box 11260, MATERIAL HANDLING ENGINEERING.

DISTRIBUTORS WANTED

Internationally known manufacturer of Hydraulic Hand Pallet Trucks. Capacity 2500 lbs. to 4000 lbs. will establish exclusive distributors from coast to coast. High profits selling an advanced design pallet truck at competitive prices. Unlimited potential. Reply to Box 11160, MATERIAL HANDLING ENGINEERING.

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You can use your forklifts far more efficiently when Ace Pallet Rollers take over the short moves. Five special-purpose designs available.

ACE SWIVEL KING (right) permits effortless movement in any direction. Five frame sizes, 4000 lb. capacity. Send for Engineering Bulletin 104K.



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For The Jobs They
Do Best**

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RETAIN FULL PRODUCTION
IN ANY WEATHER OF YOUR
**FORK LIFT
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TRACTORS AND
BULLDOZERS**
**NOW AT
REMARKABLE
LOW COST**

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Heavy army duck canvas which is waterproof and mildew-proof. Can be rolled up in mild weather.

• VISIBILITY & SAFETY

Clear vision assured by windshield and left, right, rear and roof panels of unbreakable glass. Screen insert in rear checks carbon monoxide. We can also furnish this with safety glass windshield and electric windshield wiper on request.

• EASY TO GET IN AND OUT

2-way zipper can be opened from inside or outside. Will not rust, freeze or corrode.

WHEN ORDERING

When ordering give make, model, capacity and specify whether machine has factory guard or LP gas tank.

FRAMEWORK

Framework custom made for you if your machine is not equipped with factory guard.

Phone:
WE 3-1613



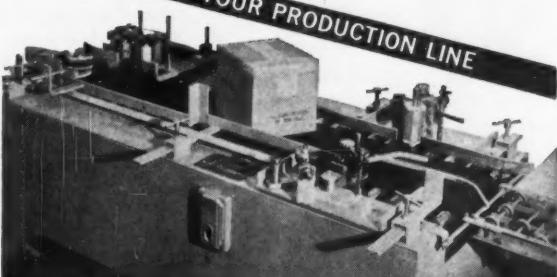
TRUCK TOP COMPANY

12186 PETOSKEY AVE., DETROIT 4, MICHIGAN

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November 1960

NOW...PRINT CARTONS ON ALL 4 SIDES



ALGENE 4-WAY PRINTER

TIES RIGHT IN WITH YOUR CONVEYOR EQUIPMENT

Now...in your own plant...you can do quality carton printing as part of your production line...

No more need to tie up space...money...with costly inventory of pre-printed cartons.

Now you can produce up to 35 cartons per minute—when you need them—all 4 sides quality printed with the message exactly where you want it—sharp and clear.

ALGENE 4-Way Printer

It takes product or code copy from 1" x 1" to 10" x 20".

It prints all 4 carton surfaces in just one pass.

It contains new formula, quick-drying inks in all colors.

Write today to:

ALGENE MARKING EQUIPMENT CO., 232 Palisade Ave. Dept. 2 Garfield, N.J.

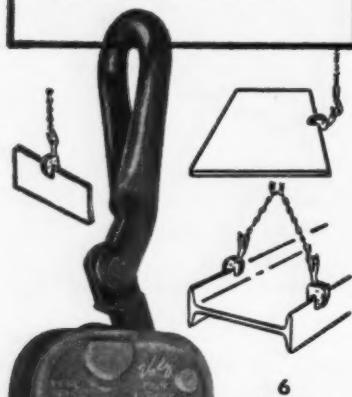
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with **MERRILL**

MATERIAL HANDLING
DEVICES FOR THE MOST
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*Safety and
Economy*

Imitated, but never duplicated,
Merrill Lifting Clamps are Drop
Forged to give you Safety in Hand-
ling and Economy in Operation.



6
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MONTH



AUTOMATIC SAFETY LOCK

FORK LIFT ATTACHMENT
Transforms any fork lift truck
into a safe, efficient mobile over-
head lifting unit.

Over 25 Material Handling
Devices described in our
catalog C-2.

Ask for a copy.

MERRILL BROTHERS

Producers of Drop & Press Forgings

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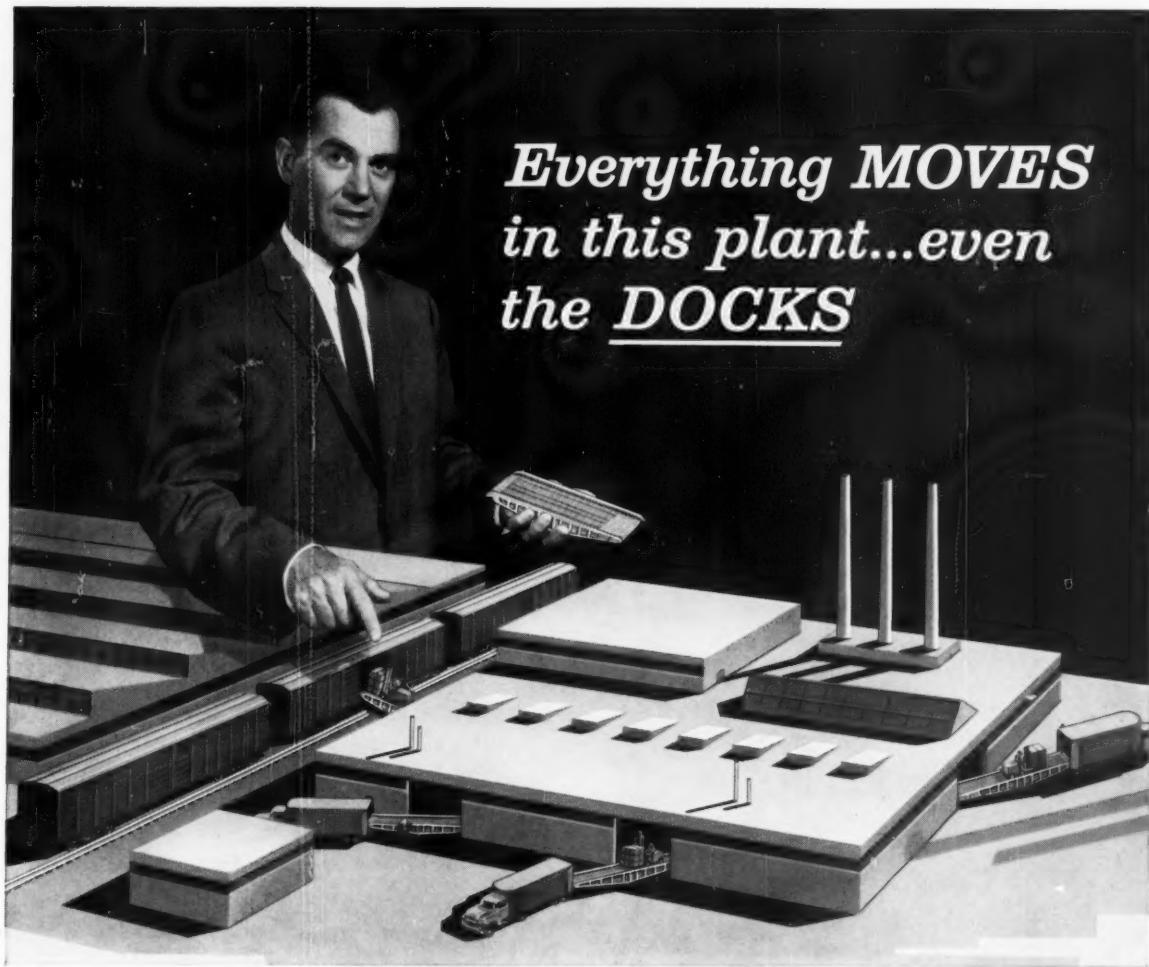
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in this plant...even
the DOCKS***



...because Magliner Mobil-Docks keep everything moving!

Shipping and receiving in *this* plant are not restricted to one specific location. Incoming shipments are being unloaded at three different points *exactly* where they're needed for production. Finished products move directly from the end of the line into carriers. Loads are handled *once*, at *one* cost. The company can re-layout production areas, departments, or the entire plant at any time because with Magliner Mobil-Docks you *can relocate major load-handling points at*

any time! This flexible ground-level loading system fits an infinite variety of plant and warehouse layouts, brings major cost-savings within easy reach of every company . . . large or small.

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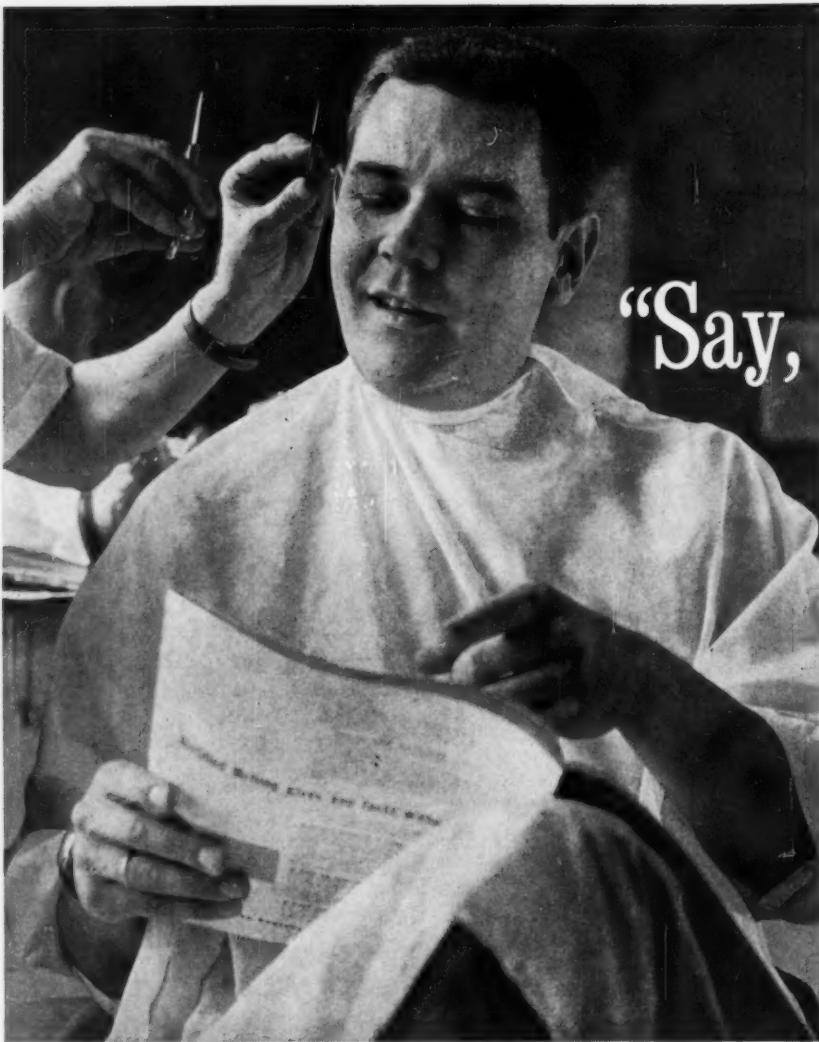
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Basis of the Mobil-Dock System. A loading dock on wheels . . . ruggedly constructed to handle loads up to 16,000 lbs., more if you need it. Simple hydraulic height adjustment to truck or railcar floor. Non-slip, all-weather grating surface.

MAGLINER MOBIL-DOCK

GROUND-LEVEL LOADING SYSTEM

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idea"

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